STATE	STATE PROJECT REFERENCE NO.	SHEET NO.
N.C.		ITS-1

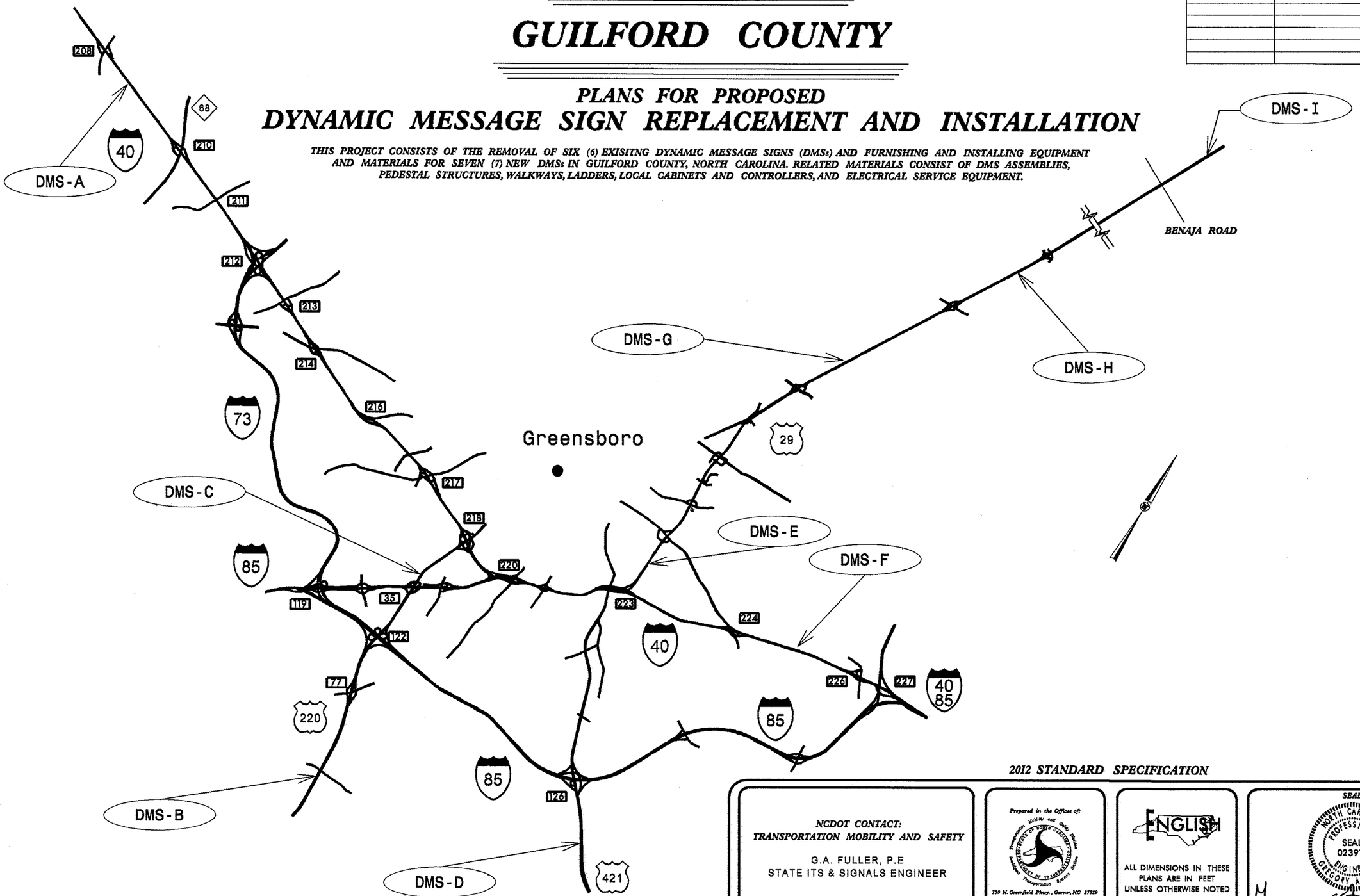
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

GUILFORD COUNTY

PLANS FOR PROPOSED
DYNAMIC MESSAGE SIGN REPLACEMENT AND INSTALLATION

THIS PROJECT CONSISTS OF THE REMOVAL OF SIX (6) EXISITNG DYNAMIC MESSAGE SIGNS (DMSs) AND FURNISHING AND INSTALLING EQUIPMENT AND MATERIALS FOR SEVEN (7) NEW DMSs IN GUILFORD COUNTY, NORTH CAROLINA. RELATED MATERIALS CONSIST OF DMS ASSEMBLIES, PEDESTAL STRUCTURES, WALKWAYS, LADDERS, LOCAL CABINETS AND CONTROLLERS, AND ELECTRICAL SERVICE EQUIPMENT.



2012 STANDARD SPECIFICATION

NCDOT CONTACT:
TRANSPORTATION MOBILITY AND SAFETY

G.A. FULLER, P.E
STATE ITS & SIGNALS ENGINEER

Prepared in the Offices of:
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Transportation Mobility and Safety Division
750 N. Greenfield Pkwy., Garner, NC 27529

ENGLISH

ALL DIMENSIONS IN THESE PLANS ARE IN FEET UNLESS OTHERWISE NOTED

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023919 ENGINEER GREGORY A. FULLER
SIGNATURE
Gregory A. Fuller 3/27/13
DATE

PROJECT: 34601.3.19

PROJECT REFERENCE NO.	SHEET NO.
34601.3.19	ITS-2

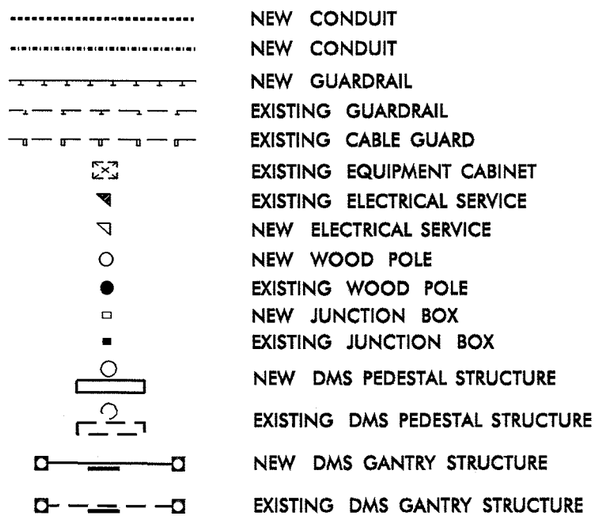
INDEX OF SHEETS

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS". ROADWAY DESIGN UNIT – N.C. DEPARTMENT OF TRANSPORTATION – RALEIGH, N.C., DATED JANUARY 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1700.01	ELECTRICAL SERVICE OPTIONS
1700.02	ELECTRICAL SERVICE GROUNDING
1715.01	UNDERGROUND CONDUIT
1716.01	JUNCTION BOXES
1720.01	WOOD POLES

LEGEND



Prepared in the Office of:
Transportation Mobility and Safety Division
North Carolina Department of Transportation
Traffic Engineering Branch
750 N. Greenfield Pkwy., Garner, NC 27529

DMS REPLACEMENT
INDEX OF SHEETS, ROADWAY STANDARD DRAWINGS, AND LEGEND

DIVISION 07 GUILFORD CO.

PLAN DATE:	MARCH 2013	REVIEWED BY:	YOW
PREPARED BY:	GREEN	REVIEWED BY:	PARKER

REVISIONS	INIT.	DATE

SCALE 0 N/A

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023919 ENGINEER GREGORY L. FULLER

Gregory L. Fuller 3/27/13
SIGNATURE DATE

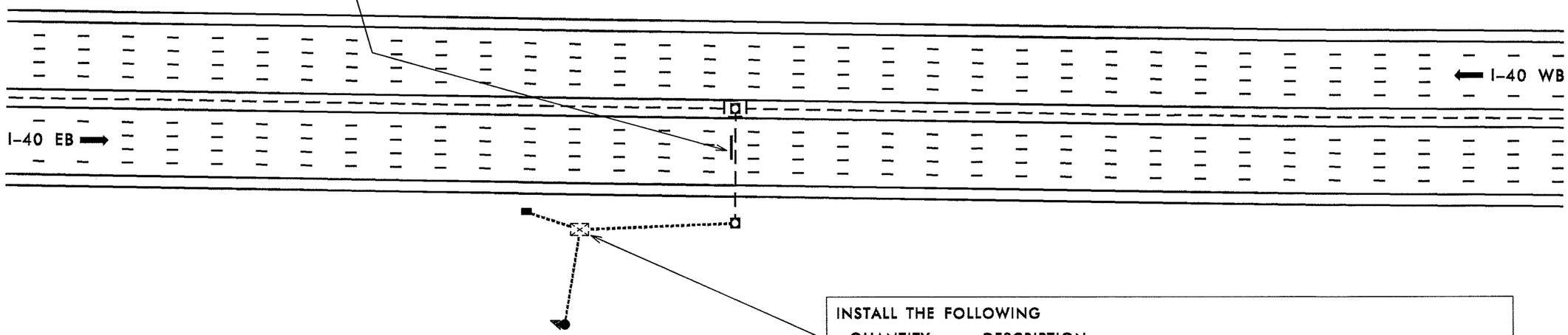
CADD Filename:

PROJECT REFERENCE NO.	SHEET NO.
34601.3.18	ITS-3

DMS-A GPS COORDINATES

36° 05.288 N
79° 59.072 W

INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	DMS



INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	MODIFY EXISTING CABINET FOUNDATION
1	INTERCONNECT CENTER
1	CABINET BASE EXTENDER

NOTES

1. REMOVE EXISTING DMS AND MOUNT NEW DMS ON EXISTING DMS STRUCTURE.
2. MODIFY EXISTING CABINET FOUNDATION AS SHOWN ON SHEET ITS-25 AND INSTALL NEW BASE MOUNT CABINET WITH 12" EXTENDER.
3. REMOVE EXISTING DMS COMMUNICATIONS AND FEEDER CONDUCTORS IN CONDUIT AND RISERS BETWEEN CABINET AND SIGN AND INSTALL NEW DMS COMMUNICATIONS AND FEEDER CONDUCTORS THROUGH THESE CONDUITS AND RISERS.
4. CONTACT THE REGIONAL ITS ENGINEER AT (336) 315-7080 A MINIMUM OF 5 DAYS BEFORE DISCONNECTING FIBER OPTIC CABLE TERMINATIONS. ENSURE EXISTING FIBER CONNECTIONS ARE LABELED BEFORE DISCONNECTING. TRANSFER AND CONNECT THE EXISTING FIBER OPTIC TRANSCEIVER IN THE NEW CABINET.

EAST OF SANDY RIDGE RD.

Prepared in the Offices of:
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Transportation Mobility and Safety Division
750 N. Greenfield Pkwy., Garner, NC 27529

DMS REPLACEMENT

DIVISION 07 GUILFORD CO. GREENSBORO

PLAN DATE:	MARCH 2013	REVIEWED BY:	YOW
PREPARED BY:	GREEN	REVIEWED BY:	PARKER

REVISIONS	INIT.	DATE

SCALE 0 N/A

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023919 ENGINEER GREGORY A. FULLER

Gregory A. Fuller 3/27/13
SIGNATURE DATE

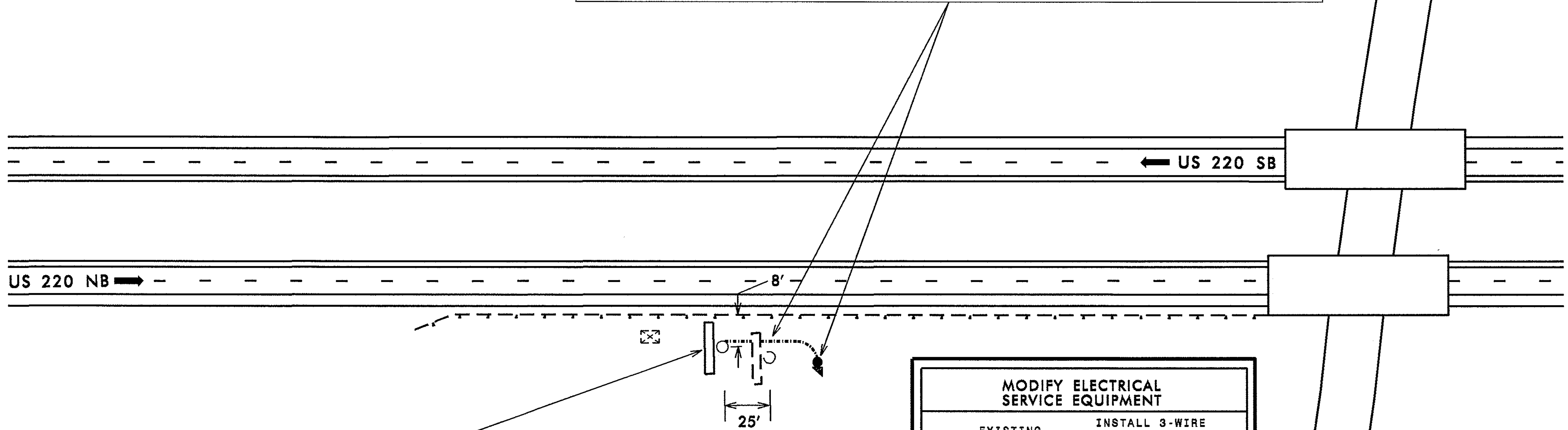
CADD Filename:

DMS-B GPS COORDINATES

35° 57.923 N
79° 49.226 W

INSTALL THE FOLLOWING

QUANTITY	DESCRIPTION
1	ELECTRICAL SERVICE DISCONNECT
45′	UNPAVED TRENCHING (2)(1.25″)
55′	4-WIRE COPPER FEEDER CONDUCTORS
3	5/8″ x 10′ COPPER CLAD GROUNDING ELECTRODE
30′	#4 AWG SOLID BARE COPPER GROUNDING CONDUCTOR



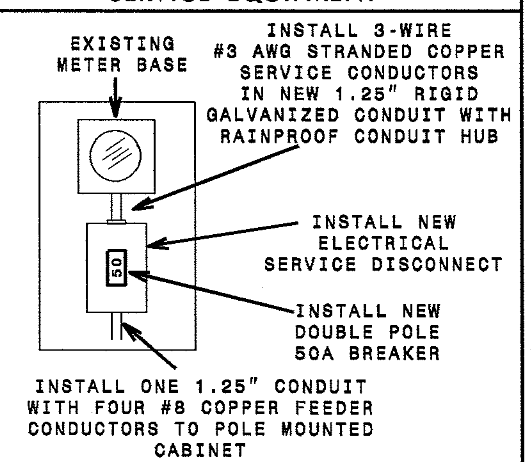
SUTTON RD.

INSTALL THE FOLLOWING

QUANTITY	DESCRIPTION
1	DMS
1	STRUCTURE
1	FOUNDATION
1	LADDER

*CELLULAR COMMUNICATIONS EQUIPMENT WILL BE PROVIDED BY THE DEPARTMENT.

MODIFY ELECTRICAL SERVICE EQUIPMENT



SOUTH OF SUTTON RD.

NOTES

1. REMOVE EXISTING DMS AND DMS STRUCTURE. ABANDON EXISTING DMS FOUNDATION IN PLACE.
2. REMOVE EXISTING CABINET AND ABANDON CABINET FOUNDATION IN PLACE.
3. INSTALL NEW DMS, WALKWAY, AND LADDER ON NEW DMS STRUCTURE.
4. INSTALL NEW DMS POLE MOUNTED CABINET ON NEW DMS STRUCTURE.
5. INSTALL NEW GROUNDING SYSTEM AS SHOWN ON SHEET ITS-21 AND AS DESCRIBED IN THE PROJECT SPECIAL PROVISIONS.

Prepared in the Offices of: Transportation Mobility and Safety Division, Intelligent Transportation Systems Section, State of North Carolina Department of Transportation
750 N. Greenfield Pkwy., Garner, NC 27529

SCALE 0 N/A

DMS REPLACEMENT

DIVISION 07 GUILFORD CO. GREENSBORO

PLAN DATE:	MARCH 2013	REVIEWED BY:	YOW
PREPARED BY:	GREEN	REVIEWED BY:	PARKER

REVISIONS	INIT.	DATE

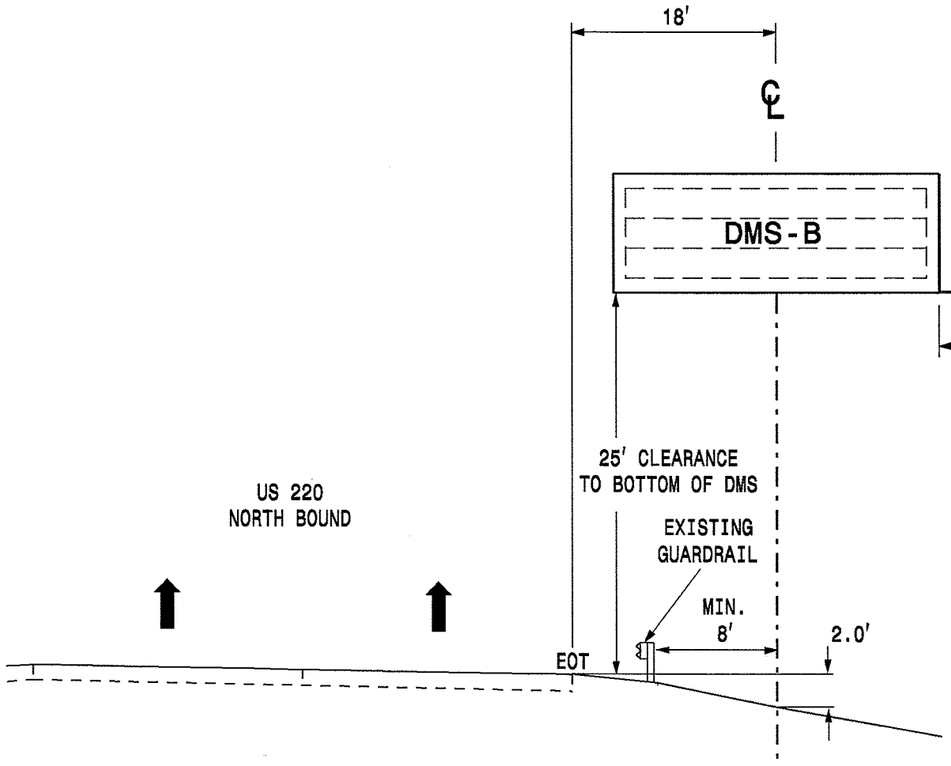
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023919 ENGINEER GREGORY A. FULLER

Gregory A. Fuller 3/27/13
SIGNATURE DATE
CADD Filename:

PROJECT REFERENCE NO.	SHEET NO.
34601.3.19	ITS-5

ESTIMATED DIMENSION : 27′ X 10′

MAXIMUM DEADLOAD OF 5200 LBS



NOTES

1. PROVIDE A FIXED LADDER LEADING TO THE ACCESS PLATFORM.
2. EQUIP THE LADDER WITH A SECURITY COVER (LADDER GUARD). START THE FIRST LADDER RUNG NO MORE THAN 18 INCHES ABOVE A CONCRETE LANDING PAD. DESIGN RUNGS ON 12 INCH CENTER-TO-CENTER TYPICAL SPACING.
3. INSTALL A CONCRETE LANDING PAD MEASURING A MINIMUM 4 INCHES DEEP, 24 INCHES WIDE, AND 36 INCHES LONG DIRECTLY BENEATH THE LADDER.
4. USE ACTUAL DIMENSIONS AND WEIGHT OF THE DMS TO COMPLETE THE DESIGN OF THE DMS STRUCTURE.
5. FIELD VERIFY ALL FOOTING ELEVATIONS AND GROUND SLOPES AT THE FOOTING USING THE LATEST NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES.
6. ENSURE THAT THE TOP OF THE FOOTING EXTENDS AT LEAST 6 INCHES AND NOT MORE THAN 24 INCHES ABOVE THE HIGHEST POINT OF THE GROUND SURFACE AT THE FOOTING.
7. DESIGN AND CONSTRUCT THE PEDESTAL STRUCTURE AND DMS ENCLOSURE TO WITHSTAND WIND VELOCITIES OF 90 MPH.
8. VERIFY ALL UNDERGROUND UTILITY LOCATIONS BEFORE BEGINNING ANY UNDERGROUND WORK. DO NOT DAMAGE ANY EXISTING UTILITIES OR NCDOT CABLES DURING CONSTRUCTION.

Prepared in the Offices of:
Transportation Mobility and Safety Division
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Integrated Transportation Solutions
750 N. Greenfield Pkwy., Garner, NC 27529

DMS INSTALLATION

DIVISION 07 GUILFORD CO. GREENSBORO

PLAN DATE:	MARCH 2013	REVIEWED BY:	YOH
PREPARED BY:	GREEN	REVIEWED BY:	PARKER

REVISIONS	INIT.	DATE

SCALE: 0 N/A

CADD Filename:

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023919 ENGINEER GREGORY A. FULLER

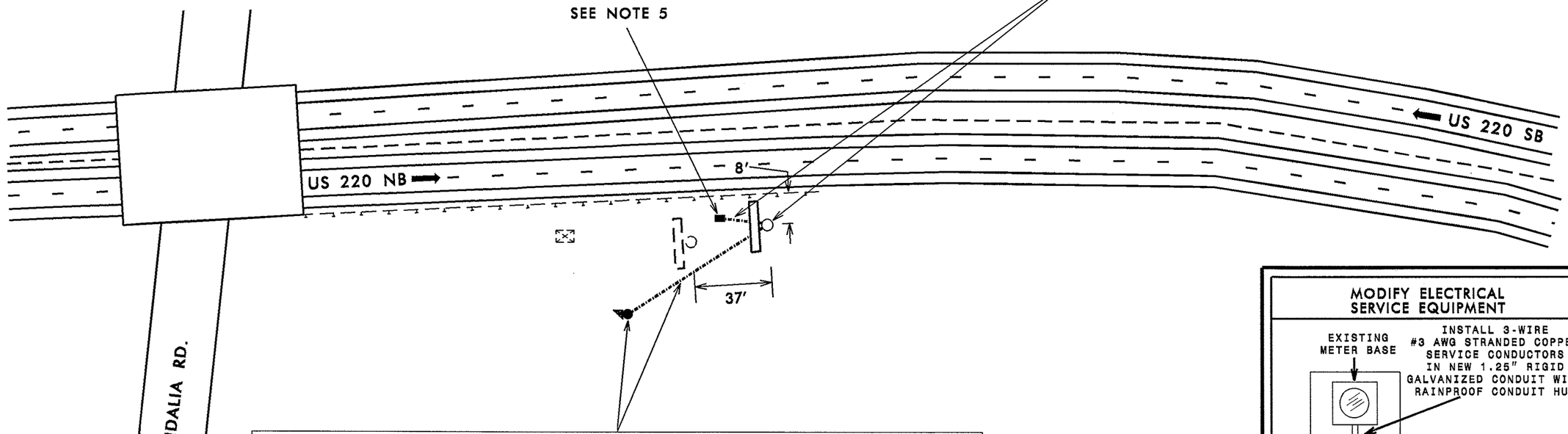
Gregory A. Fuller 3/27/13
SIGNATURE DATE

PROJECT REFERENCE NO.	SHEET NO.
34601.3.18	ITS-6

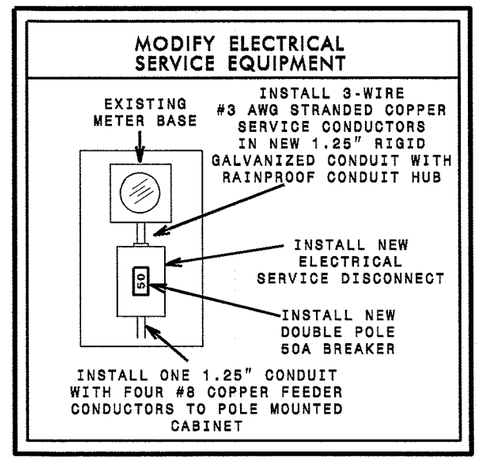
DMS-C GPS COORDINATES

36° 01.315 N
79° 49.556 W

INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	DMS
1	STRUCTURE
1	FOUNDATION
1	LADDER
1	INTERCONNECT CENTER
1	INDUSTRIAL ETHERNET SWITCH
25′	UNPAVED TRENCHING (2)(1.25″)



INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	ELECTRICAL SERVICE DISCONNECT
70′	UNPAVED TRENCHING (2)(1.25″)
80′	4-WIRE COPPER FEEDER CONDUCTORS
3	5/8″ x 10′ COPPER CLAD GROUNDING ELECTRODE
30′	#4 AWG SOLID BARE COPPER GROUNDING CONDUCTOR



NOTES

1. REMOVE EXISTING DMS AND DMS STRUCTURE. ABANDON EXISTING DMS FOUNDATION IN PLACE.
2. REMOVE EXISTING CABINET AND ABANDON CABINET FOUNDATION IN PLACE.
3. INSTALL NEW DMS, WALKWAY, AND LADDER ON NEW DMS STRUCTURE.
4. INSTALL NEW DMS POLE MOUNTED CABINET ON NEW DMS STRUCTURE.
5. ROUTE EXISTING 12-FIBER DROP CABLE TO NEW POLE MOUNTED CABINET THROUGH NEW CONDUIT. SEE ITS-19 FOR SPLICING DETAILS.
6. INSTALL NEW GROUNDING SYSTEM AS SHOWN ON SHEET ITS-21 AND AS DESCRIBED IN THE PROJECT SPECIAL PROVISIONS.

NORTH OF VANDALIA RD.

Prepared in the Offices of:
NCDOT Traffic Engineering Branch
750 N. Greenfield Pkwy., Garner, NC 27529

DMS REPLACEMENT

DIVISION 07 GUILFORD CO. GREENSBORO
PLAN DATE: MARCH 2013 REVIEWED BY: YOW
PREPARED BY: GREEN REVIEWED BY: PARKER

REVISIONS	INIT.	DATE

SCALE: N/A

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023919 ENGINEER GREGORY A. FULLER

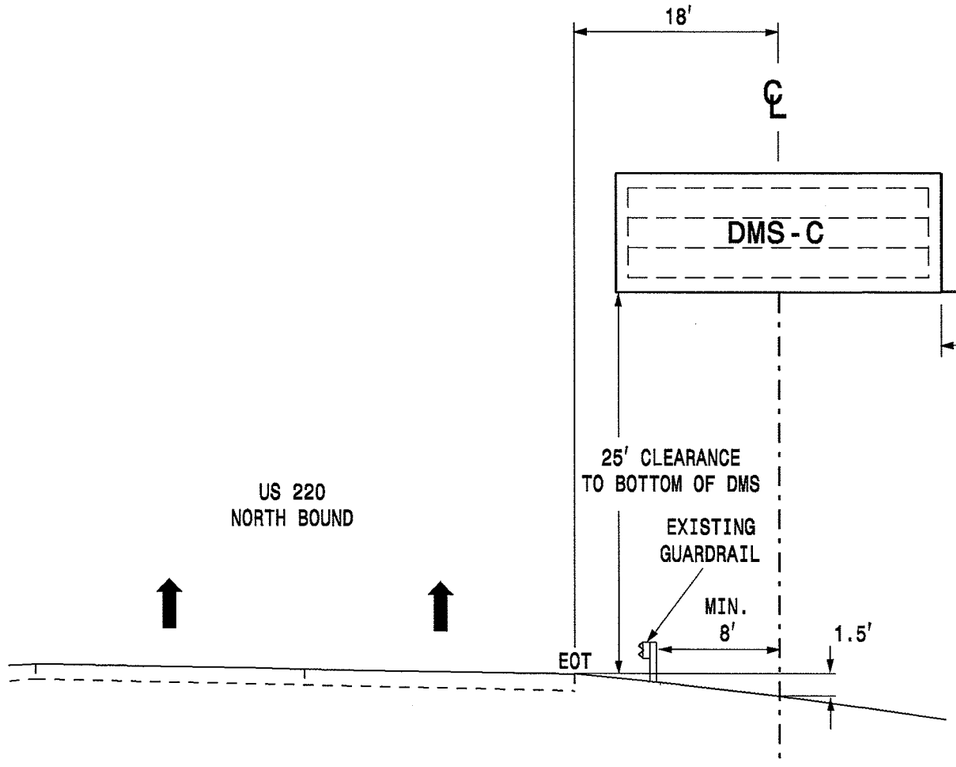
Gregory A. Fuller 3/27/13
SIGNATURE DATE

CADD Filename:

PROJECT REFERENCE NO.	SHEET NO.
34601.3.19	ITS-7

ESTIMATED DIMENSION : 27′ X 10′

MAXIMUM DEADLOAD OF 5200 LBS



NOTES

1. PROVIDE A FIXED LADDER LEADING TO THE ACCESS PLATFORM.
2. EQUIP THE LADDER WITH A SECURITY COVER (LADDER GUARD). START THE FIRST LADDER RUNG NO MORE THAN 18 INCHES ABOVE A CONCRETE LANDING PAD. DESIGN RUNGS ON 12 INCH CENTER-TO-CENTER TYPICAL SPACING.
3. INSTALL A CONCRETE LANDING PAD MEASURING A MINIMUM 4 INCHES DEEP, 24 INCHES WIDE, AND 36 INCHES LONG DIRECTLY BENEATH THE LADDER.
4. USE ACTUAL DIMENSIONS AND WEIGHT OF THE DMS TO COMPLETE THE DESIGN OF THE DMS STRUCTURE.
5. FIELD VERIFY ALL FOOTING ELEVATIONS AND GROUND SLOPES AT THE FOOTING USING THE LATEST NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES.
6. ENSURE THAT THE TOP OF THE FOOTING EXTENDS AT LEAST 6 INCHES AND NOT MORE THAN 24 INCHES ABOVE THE HIGHEST POINT OF THE GROUND SURFACE AT THE FOOTING.
7. DESIGN AND CONSTRUCT THE PEDESTAL STRUCTURE AND DMS ENCLOSURE TO WITHSTAND WIND VELOCITIES OF 90 MPH.
8. VERIFY ALL UNDERGROUND UTILITY LOCATIONS BEFORE BEGINNING ANY UNDERGROUND WORK. DO NOT DAMAGE ANY EXISTING UTILITIES OR NCDOT CABLES DURING CONSTRUCTION.

Prepared in the Offices of:
Transportation Mobility and Safety Division
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Integrated Transportation Systems
750 N. Greenfield Pkwy., Garner, NC 27529

DMS INSTALLATION

DIVISION 07 GUILFORD CO. GREENSBORO

PLAN DATE:	MARCH 2013	REVIEWED BY:	YOW
PREPARED BY:	GREEN	REVIEWED BY:	PARKER

REVISIONS	INIT.	DATE

SCALE 0 N/A

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023919 ENGINEER GREGORY A. FULLER

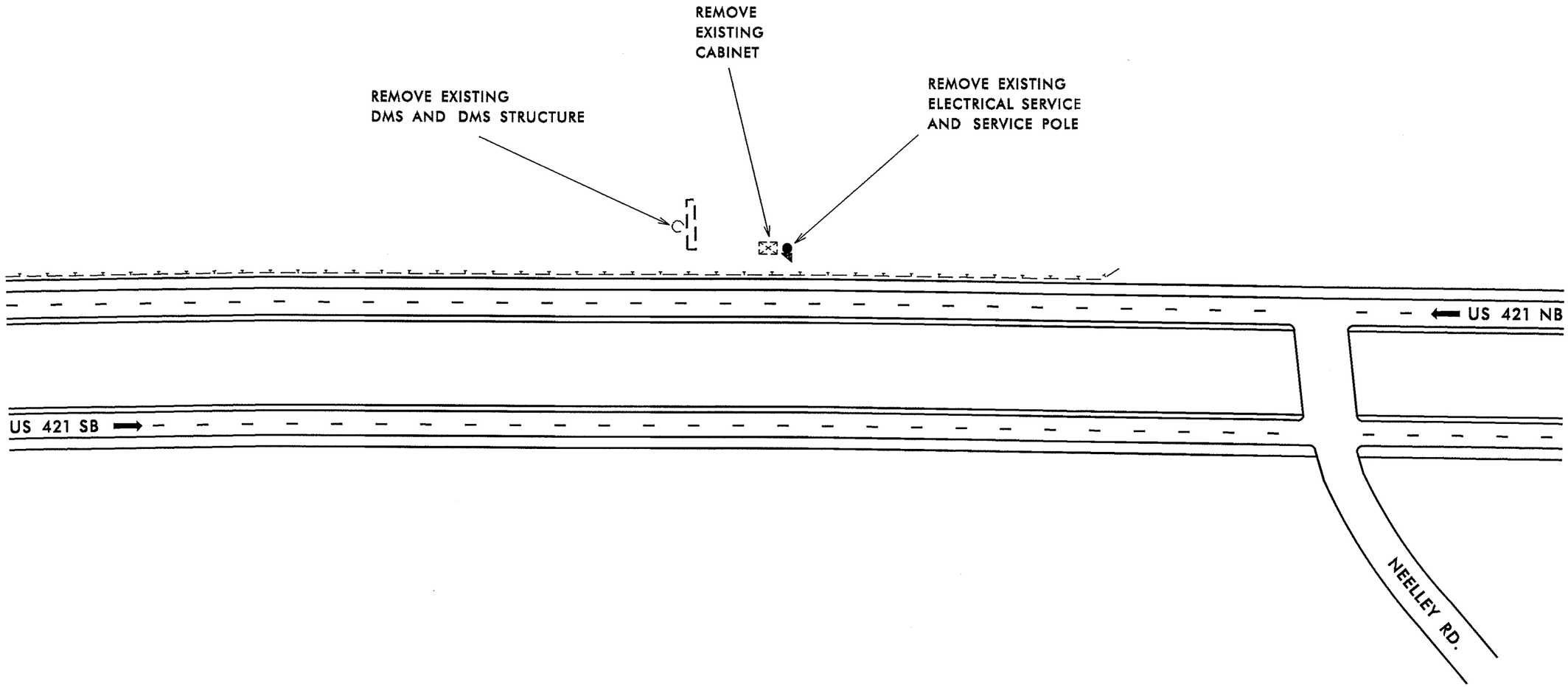
SIGNATURE Gregory A. Fuller DATE 3/27/13

CADD Filename:

PROJECT REFERENCE NO.	SHEET NO.
34601.3.19	ITS-8

EXISTING DMS-D GPS COORDINATES

35° 59.199 N
79° 44.389 W



SOUTH OF I-85

NOTES

1. REMOVE EXISTING DMS AND DMS STRUCTURE. ABANDON EXISTING DMS FOUNDATION IN PLACE.
2. REMOVE EXISTING CABINET AND ABANDON CABINET FOUNDATION IN PLACE.
3. REMOVE EXISTING ELECTRICAL SERVICE AND SERVICE POLE.

Prepared in the Offices of:
750 N. Greenfield Pkwy., Garner, NC 27529

SCALE: 0 N/A

DMS REPLACEMENT

DIVISION 07 GUILFORD CO. GREENSBORO

PLAN DATE: MARCH 2013	REVIEWED BY: YOW
PREPARED BY: GREEN	REVIEWED BY: PARKER

REVISIONS	INIT.	DATE

CADD Filename:

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023919 ENGINEER GREGORY A. FULLER

Gregory A. Fuller 3/27/13
SIGNATURE DATE

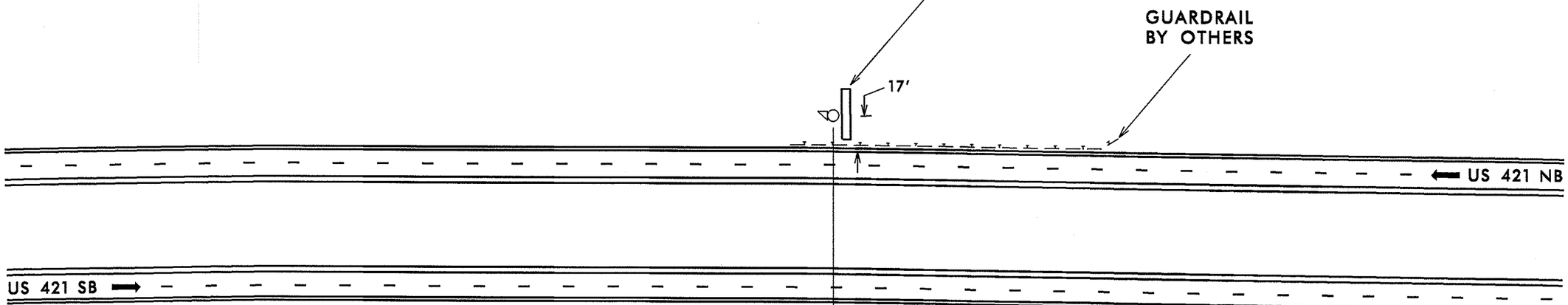
PROJECT REFERENCE NO.	SHEET NO.
34601.3.19	ITS-8

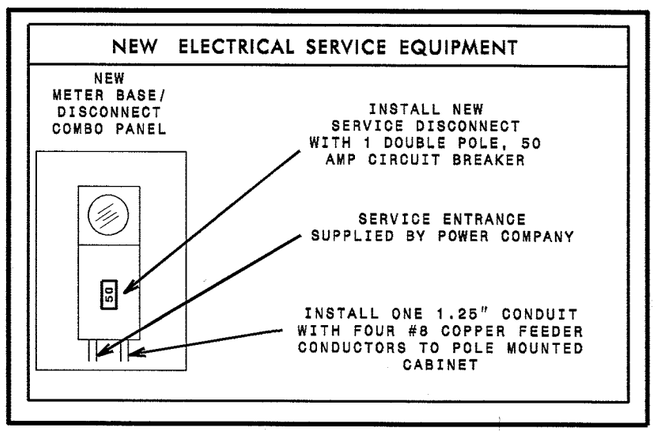
NEW DMS-D GPS COORDINATES

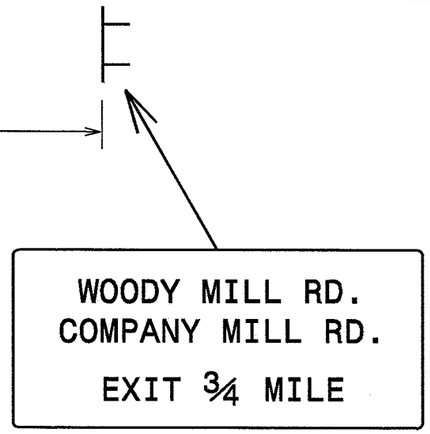
35° 58.312 N
79° 43.192 W

*CELLULAR COMMUNICATIONS EQUIPMENT WILL BE PROVIDED BY THE DEPARTMENT.

INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	DMS
1	STRUCTURE
1	FOUNDATION
1	LADDER
1	METER BASE/DISCONNECT COMBINATION PANEL
5′	4-WIRE COPPER FEEDER CONDUCTORS
3	5/8″ x 10′ COPPER CLAD GROUNDING ELECTRODE
30′	#4 AWG SOLID BARE COPPER GROUNDING CONDUCTOR







SOUTH OF I-85

NOTES
1. CONTACT GARY VONCANNON (DUKE ENERGY) AT 336-632-3848 TO OBTAIN POWER TO ELECTRICAL SERVICE.
2. INSTALL NEW DMS, WALKWAY, AND LADDER ON NEW DMS STRUCTURE.
3. INSTALL NEW DMS POLE MOUNTED CABINET ON NEW DMS STRUCTURE.
4. INSTALL NEW GROUNDING SYSTEM AS SHOWN ON SHEET ITS-22 AND AS DESCRIBED IN THE PROJECT SPECIAL PROVISIONS.

Prepared in the Offices of:
North Carolina Department of Transportation
Transportation Mobility and Safety Division
Traffic Engineering Branch
750 N. Greenfield Pkwy., Garner, NC 27529

DMS REPLACEMENT

DIVISION 07 GUILFORD CO. GREENSBORO
PLAN DATE: MARCH 2013 REVIEWED BY: YOW
PREPARED BY: GREEN REVIEWED BY: PARKER

REVISIONS	INIT.	DATE

SCALE 0 N/A

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023919 ENGINEER GREGORY A. FULLER

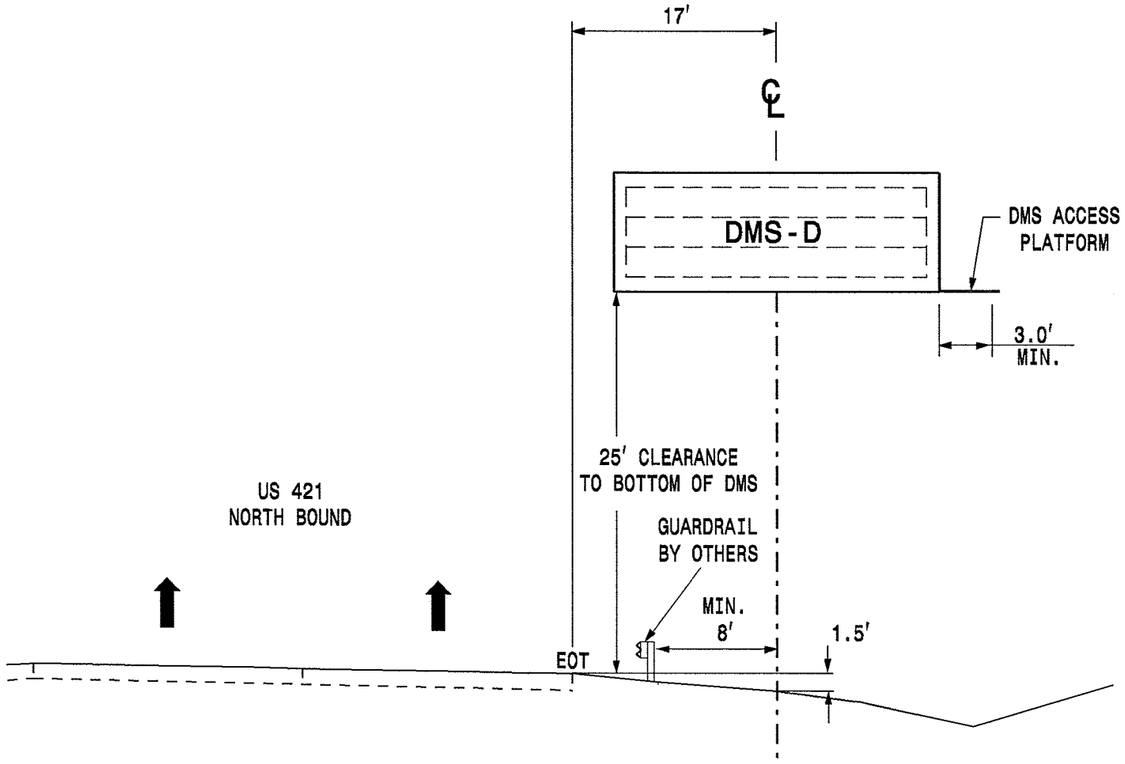
Gregory A. Fuller 3/27/13
SIGNATURE DATE

CADD Filename:

PROJECT REFERENCE NO.	SHEET NO.
34601.3.19	ITS-10

ESTIMATED DIMENSION : 27′ X 10′

MAXIMUM DEADLOAD OF 5200 LBS



NOTES

1. PROVIDE A FIXED LADDER LEADING TO THE ACCESS PLATFORM.
2. EQUIP THE LADDER WITH A SECURITY COVER (LADDER GUARD). START THE FIRST LADDER RUNG NO MORE THAN 18 INCHES ABOVE A CONCRETE LANDING PAD. DESIGN RUNGS ON 12 INCH CENTER-TO-CENTER TYPICAL SPACING.
3. INSTALL A CONCRETE LANDING PAD MEASURING A MINIMUM 4 INCHES DEEP, 24 INCHES WIDE, AND 36 INCHES LONG DIRECTLY BENEATH THE LADDER.
4. USE ACTUAL DIMENSIONS AND WEIGHT OF THE DMS TO COMPLETE THE DESIGN OF THE DMS STRUCTURE.
5. FIELD VERIFY ALL FOOTING ELEVATIONS AND GROUND SLOPES AT THE FOOTING USING THE LATEST NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES.
6. ENSURE THAT THE TOP OF THE FOOTING EXTENDS AT LEAST 6 INCHES AND NOT MORE THAN 24 INCHES ABOVE THE HIGHEST POINT OF THE GROUND SURFACE AT THE FOOTING.
7. DESIGN AND CONSTRUCT THE PEDESTAL STRUCTURE AND DMS ENCLOSURE TO WITHSTAND WIND VELOCITIES OF 90 MPH.
8. VERIFY ALL UNDERGROUND UTILITY LOCATIONS BEFORE BEGINNING ANY UNDERGROUND WORK. DO NOT DAMAGE ANY EXISTING UTILITIES OR NCDOT CABLES DURING CONSTRUCTION.

Prepared in the Offices of:
North Carolina Department of Transportation
Traffic Engineering Branch
750 N. Greenfield Pkwy., Garner, NC 27529

DMS INSTALLATION

DIVISION 07 GUILFORD CO. GREENSBORO

PLAN DATE:	MARCH 2013	REVIEWED BY:	YOW
PREPARED BY:	GREEN	REVIEWED BY:	PARKER

REVISIONS	INIT.	DATE

SCALE 0 N/A

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023919 ENGINEER GREGORY A. FULLER

SIGNATURE Gregory A. Fuller DATE 3/27/13

CADD Filename:

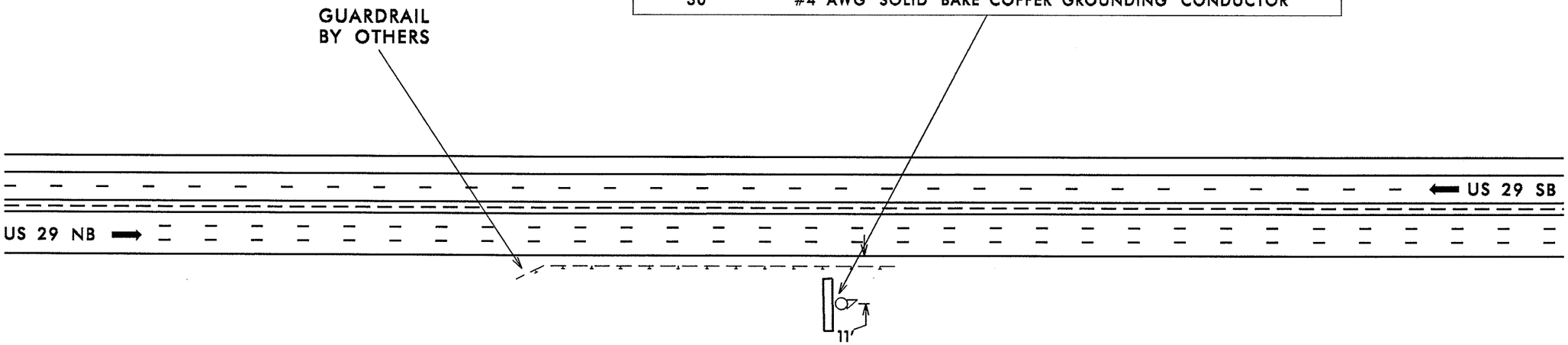
PROJECT REFERENCE NO.	SHEET NO.
34601.3.19	ITS-11

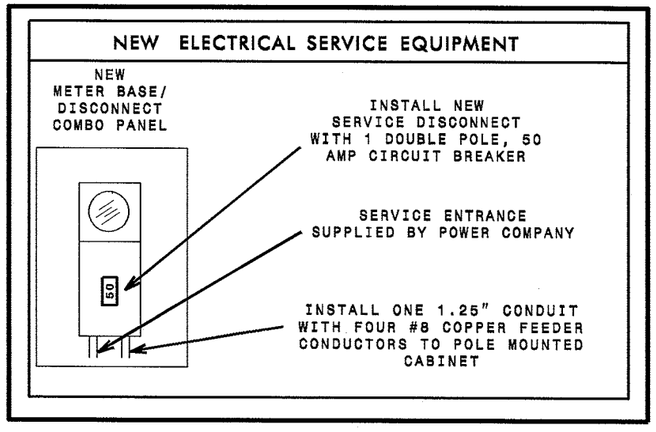
DMS-E GPS COORDINATES

36° 03.030 N
79° 46.083 W

*CELLULAR COMMUNICATIONS EQUIPMENT WILL BE PROVIDED BY THE DEPARTMENT.

INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	DMS
1	STRUCTURE
1	FOUNDATION
1	LADDER
1	METER BASE/DISCONNECT COMBINATION PANEL
5'	4-WIRE COPPER FEEDER CONDUCTORS
3	5/8" x 10' COPPER CLAD GROUNDING ELECTRODE
30'	#4 AWG SOLID BARE COPPER GROUNDING CONDUCTOR





NORTH OF I-40

NOTES
1. CONTACT GARY VONCANNON (DUKE ENERGY) AT 336-632-3848 TO OBTAIN POWER TO ELECTRICAL SERVICE.
2. INSTALL NEW DMS, WALKWAY, AND LADDER ON NEW DMS STRUCTURE.
3. INSTALL NEW DMS POLE MOUNTED CABINET ON NEW DMS STRUCTURE.
4. INSTALL NEW GROUNDING SYSTEM AS SHOWN ON SHEET ITS-22 AND AS DESCRIBED IN THE PROJECT SPECIAL PROVISIONS.

Prepared in the Offices of:
NCDOT Transportation Mobility and Safety Division
750 N. Greenfield Pkwy., Garner, NC 27529

DMS REPLACEMENT

DIVISION 07 GUILFORD CO. GREENSBORO
PLAN DATE: MARCH 2013 REVIEWED BY: YOW
PREPARED BY: GREEN REVIEWED BY: PARKER

REVISIONS	INIT.	DATE

SCALE: 0 N/A

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023919 ENGINEER GREGORY A. FULLER

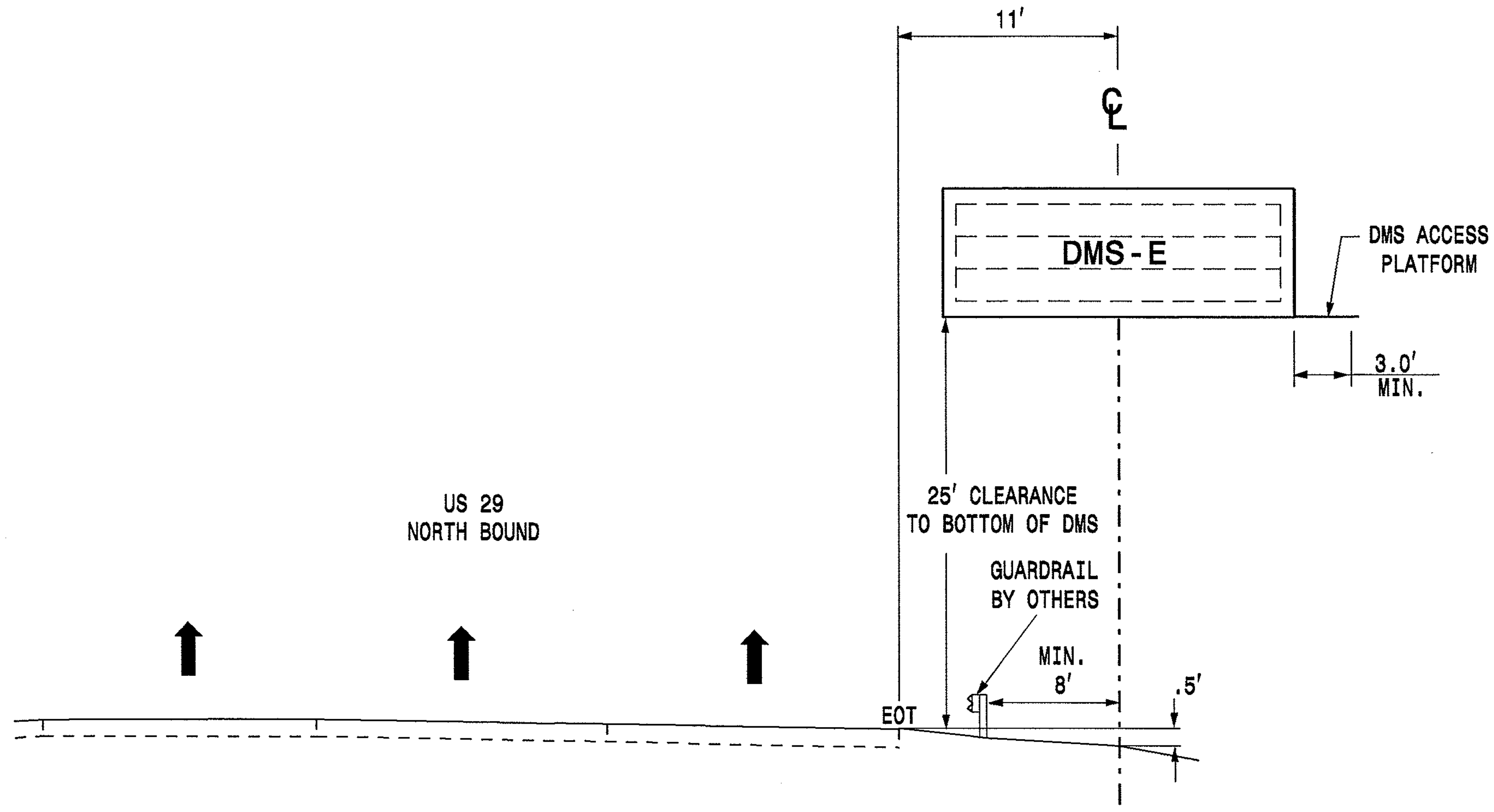
SIGNATURE: Gregory A. Fuller 3/27/13 DATE

CADD Filename:

PROJECT REFERENCE NO.	SHEET NO.
34601.3.19	ITS-12

ESTIMATED DIMENSION : 27' X 10'

MAXIMUM DEADLOAD OF 5200 LBS



NOTES

1. PROVIDE A FIXED LADDER LEADING TO THE ACCESS PLATFORM.

2. EQUIP THE LADDER WITH A SECURITY COVER (LADDER GUARD). START THE FIRST LADDER RUNG NO MORE THAN 18 INCHES ABOVE A CONCRETE LANDING PAD. DESIGN RUNGS ON 12 INCH CENTER-TO-CENTER TYPICAL SPACING.

3. INSTALL A CONCRETE LANDING PAD MEASURING A MINIMUM 4 INCHES DEEP, 24 INCHES WIDE, AND 36 INCHES LONG DIRECTLY BENEATH THE LADDER.

4. USE ACTUAL DIMENSIONS AND WEIGHT OF THE DMS TO COMPLETE THE DESIGN OF THE DMS STRUCTURE.

5. FIELD VERIFY ALL FOOTING ELEVATIONS AND GROUND SLOPES AT THE FOOTING USING THE LATEST NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES.

6. ENSURE THAT THE TOP OF THE FOOTING EXTENDS AT LEAST 6 INCHES AND NOT MORE THAN 24 INCHES ABOVE THE HIGHEST POINT OF THE GROUND SURFACE AT THE FOOTING.

7. DESIGN AND CONSTRUCT THE PEDESTAL STRUCTURE AND DMS ENCLOSURE TO WITHSTAND WIND VELOCITIES OF 90 MPH.

8. VERIFY ALL UNDERGROUND UTILITY LOCATIONS BEFORE BEGINNING ANY UNDERGROUND WORK. DO NOT DAMAGE ANY EXISTING UTILITIES OR NCDOT CABLES DURING CONSTRUCTION.

Prepared in the Offices of: Transportation Mobility and Safety Division, Intelligent Transportation Systems Section

750 N. Greenfield Pkwy., Garner, NC 27529

SCALE 0 N/A

DMS INSTALLATION

DIVISION 07	GUILFORD CO.	GREENSBORO	
PLAN DATE:	MARCH 2013	REVIEWED BY:	YOW
PREPARED BY:	GREEN	REVIEWED BY:	PARKER

REVISIONS	INIT.	DATE

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 023919 ENGINEER GREGORY A. FULLER

Gregory A. Fuller 3/27/13

SIGNATURE DATE

CADD Filename:

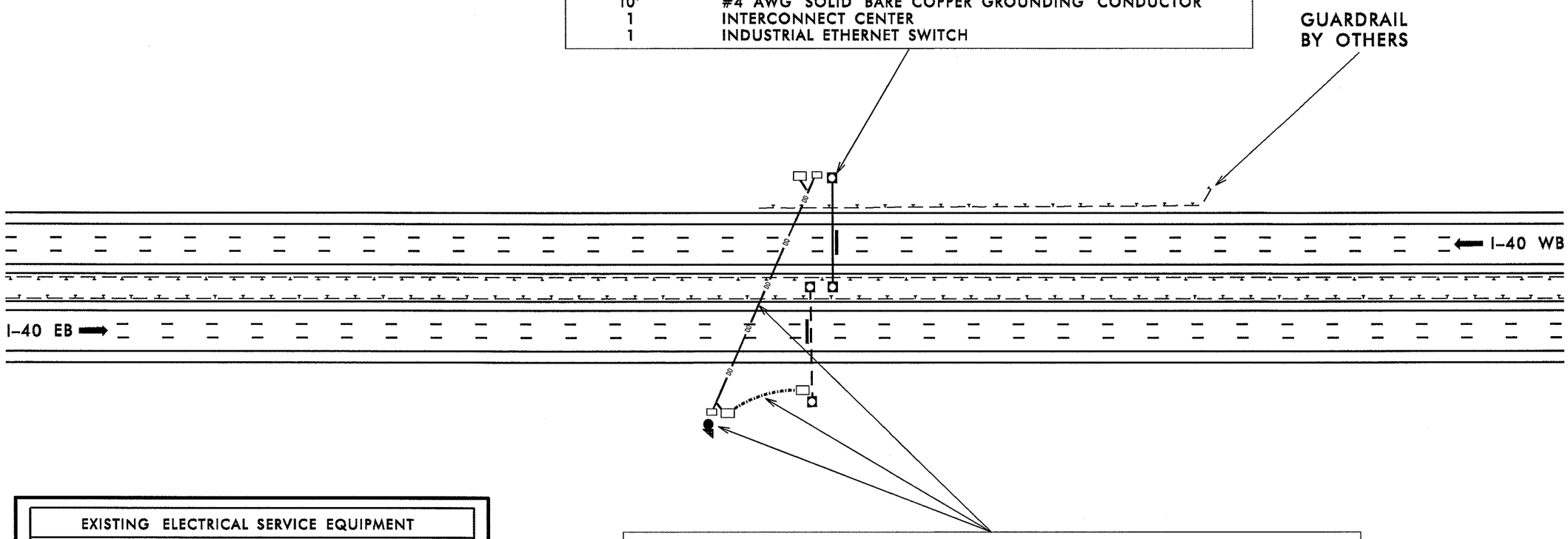
PROJECT REFERENCE NO.	SHEET NO.
34601.3.19	ITS-13

DMS-F GPS COORDINATES

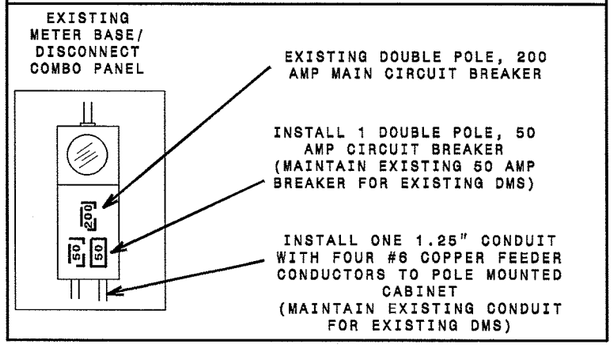
36° 03.387 N
79° 42.869 W

INSTALL THE FOLLOWING

QUANTITY	DESCRIPTION
1	DMS
1	STRUCTURE
1	FOUNDATION
1	EQUIPMENT CABINET DISCONNECT ON STRUCTURE
1	5/8" x 10' COPPER CLAD GROUNDING ELECTRODE
10'	#4 AWG SOLID BARE COPPER GROUNDING CONDUCTOR
1	INTERCONNECT CENTER
1	INDUSTRIAL ETHERNET SWITCH



EXISTING ELECTRICAL SERVICE EQUIPMENT



INSTALL THE FOLLOWING

QUANTITY	DESCRIPTION
1	MODIFY EXISTING ELECTRICAL SERVICE
2	STANDARD SIZED JUNCTION BOX
3	OVERSIZE JUNCTION BOX
185'	DIRECTIONAL DRILL (2)(1.25")
50'	UNPAVED TRENCHING (2)(1.25")
295'	6-FIBER DROP CABLE
195'	4-WIRE COPPER FEEDER CONDUCTORS
3	5/8" x 10' COPPER CLAD GROUNDING ELECTRODE
30'	#4 AWG SOLID BARE COPPER GROUNDING CONDUCTOR

NOTES

1. INSTALL NEW DMS, WALKWAY, AND LADDER ON NEW DMS STRUCTURE.
2. INSTALL NEW DMS POLE MOUNTED CABINET ON NEW DMS STRUCTURE.
3. INSTALL CONDUITS FOR FEEDER CONDUCTORS AND FIBER OPTIC CABLE FOR NEW DMS IN SAME BORE AND USE SEPARATE CONDUIT AND JUNCTION BOXES.
4. SPLICE NEW 6-FIBER DROP CABLE INTO EXISTING FIBER OPTIC TRUNK LINE IN EXISTING INTERCONNECT CENTER IN THE EXISTING DMS POLE MOUNTED CABINET. SEE ITS-20 FOR SPLICING DETAILS.
5. INSTALL NEW GROUNDING SYSTEM AS SHOWN ON SHEET ITS-23 AND AS DESCRIBED IN THE PROJECT SPECIAL PROVISIONS.

EAST OF LEE ST.

Prepared in the Offices of:
NCDOT
750 N. Greenfield Pkwy., Garner, NC 27529

DMS REPLACEMENT

DIVISION 07 GUILFORD CO. GREENSBORO

PLAN DATE:	MARCH 2013	REVIEWED BY:	YOW
PREPARED BY:	GREEN	REVIEWED BY:	PARKER

SCALE: N/A

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023919 ENGINEER GREGORY A FULLER

SIGNATURE Gregory A. Fuller DATE 3/27/13

CADD Filename:

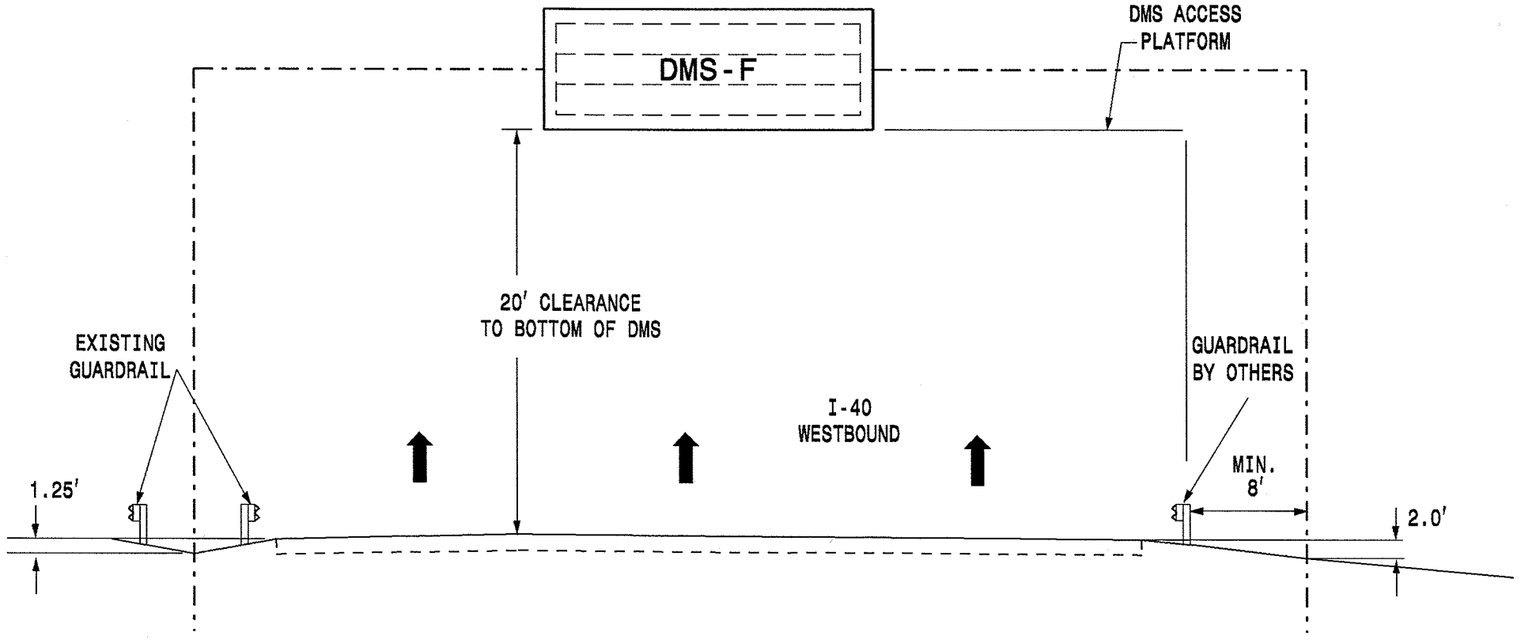
PROJECT REFERENCE NO.	SHEET NO.
34601.3.19	ITS-14

ESTIMATED DIMENSION : 27' X 10'

MAXIMUM DEADLOAD OF 5200 LBS

NOTES:

1. PROVIDE A FIXED ACCESS PLATFORM EXTENDING BEYOND THE ROADWAY SHOULDER.
2. USE ACTUAL DIMENSIONS AND WEIGHT OF THE DMS TO COMPLETE THE DESIGN OF THE DMS STRUCTURE.
3. FIELD VERIFY ALL FOOTING ELEVATIONS AND GROUND SLOPES AT THE FOOTINGS USING THE LATEST NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES.
4. ENSURE THAT THE TOP OF THE FOOTING EXTENDS AT LEAST 6 INCHES AND NOT MORE THAN 24 INCHES ABOVE THE HIGHEST POINT OF THE GROUND SURFACE OF THE FOOTING.
5. DESIGN AND CONSTRUCT THE STRUCTURE AND DMS ENCLOSURE TO WITHSTAND WIND VELOCITIES OF 90 MPH.
6. VERIFY ALL UNDERGROUND UTILITY LOCATIONS BEFORE BEGINNING ANY UNDERGROUND WORK. DO NOT DAMAGE ANY EXISTING UTILITIES OR NCDOT CABLES DURING CONSTRUCTION.



Prepared in the Offices of:
North Carolina Department of Transportation, Mobility and Safety Division, Traffic Engineering Branch
750 N. Greenfield Pkwy., Garner, NC 27529

DMS INSTALLATION

DIVISION 07 GUILFORD CO. GREENSBORO

PLAN DATE:	MARCH 2013	REVIEWED BY:	YOW
PREPARED BY:	GREEN	REVIEWED BY:	PARKER

REVISIONS	INIT.	DATE

SCALE 0 N/A

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023919 ENGINEER GREGORY A. FULLER

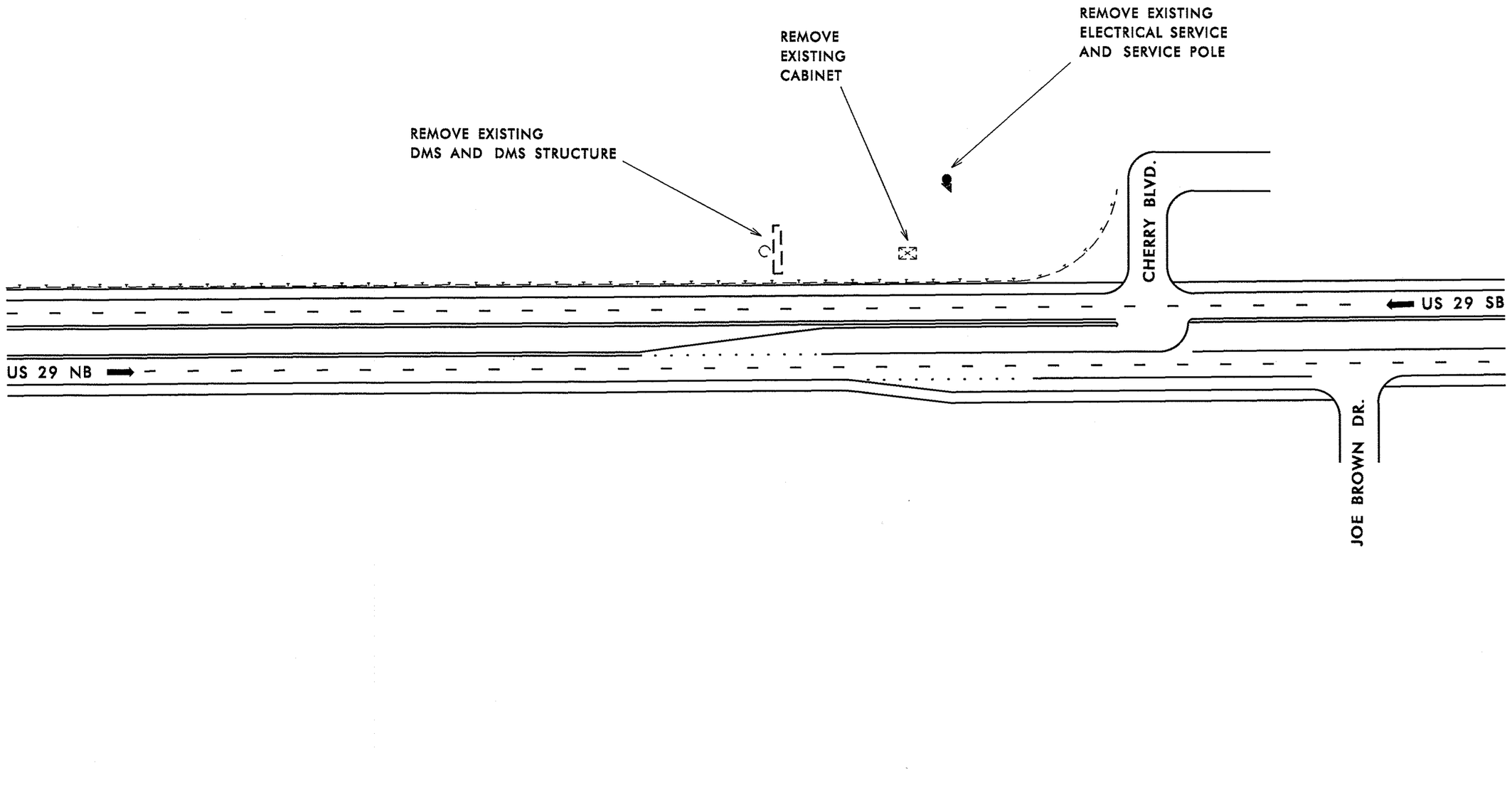
Gregory A. Fuller 3/27/13
SIGNATURE DATE

CADD Filename:

PROJECT REFERENCE NO.	SHEET NO.
34601.3.18	ITS-15

DMS-G GPS COORDINATES

36° 07.499 N
79° 44.919 W



NORTH OF CONE BLVD.

NOTES

1. REMOVE EXISTING DMS AND DMS STRUCTURE. ABANDON EXISTING DMS FOUNDATION IN PLACE.
2. REMOVE EXISTING CABINET AND ABANDON CABINET FOUNDATION IN PLACE.
3. REMOVE EXISTING ELECTRICAL SERVICE AND SERVICE POLE.

Prepared in the Offices of:
North Carolina Department of Transportation
Integrated Mobility Division
750 N. Greenfield Pkwy., Garner, NC 27529

SCALE 0 N/A

DMS REPLACEMENT

DIVISION 07 GUILFORD CO. GREENSBORO

PLAN DATE:	MARCH 2013	REVIEWED BY:	YOW
PREPARED BY:	GREEN	REVIEWED BY:	PARKER

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023919 ENGINEER GREGORY A. FULLER

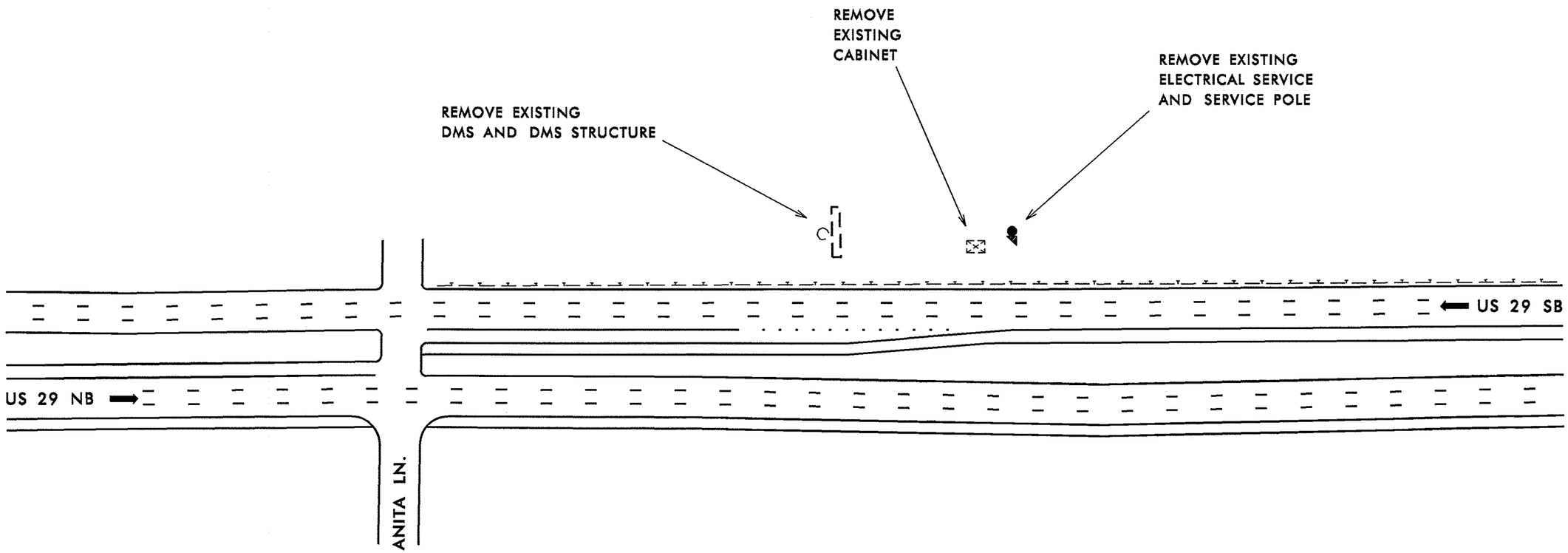
Gregory A. Fuller 3/27/13
SIGNATURE DATE

CADD Filename:

PROJECT REFERENCE NO.	SHEET NO.
34601.3.18	ITS-16

EXISTING DMS-H GPS COORDINATES

36° 10.021 N
79° 43.086 W



NOTES

1. REMOVE EXISTING DMS AND DMS STRUCTURE. ABANDON EXISTING DMS FOUNDATION IN PLACE.
2. REMOVE EXISTING CABINET AND ABANDON CABINET FOUNDATION IN PLACE.
3. REMOVE EXISTING ELECTRICAL SERVICE AND SERVICE POLE.

Prepared in the Offices of:
NCDOT
750 N. Greenfield Pkwy., Garner, NC 27529

DMS REPLACEMENT

DIVISION 07	GUILFORD CO.	GREENSBORO
PLAN DATE: MARCH 2013	REVIEWED BY:	YOW
PREPARED BY: GREEN	REVIEWED BY:	PARKER

REVISIONS	INIT.	DATE

SCALE 0 N/A

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023919 ENGINEER GREGORY A. FULLER

Gregory A. Fuller 3/27/13
SIGNATURE DATE

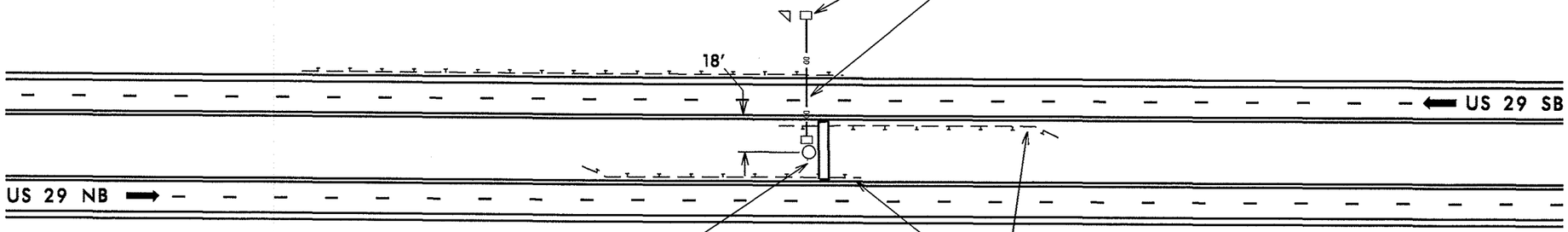
CADD Filename:

PROJECT REFERENCE NO.	SHEET NO.
34801.3.19	ITS-17

DMS-I GPS COORDINATES

36° 14.053 N
79° 40.451 W

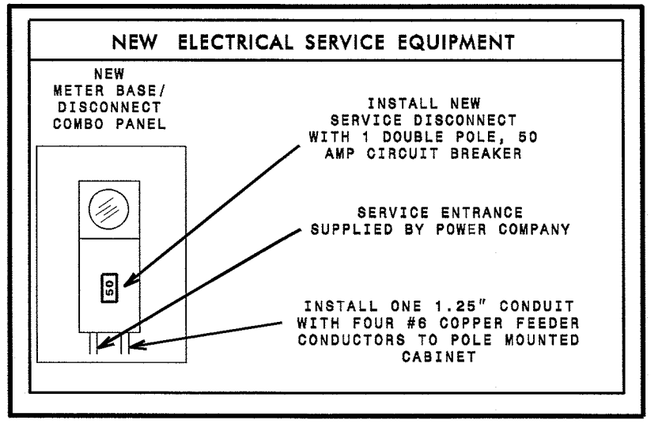
INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	6" X 6" WOOD PEDESTAL
1	METER BASE/DISCONNECT COMBINATION PANEL
150'	DIRECTIONAL DRILL (2)(1.25")
160'	4-WIRE COPPER FEEDER CONDUCTORS
2	STANDARD SIZE JUNCTION BOX
3	5/8" x 10' COPPER CLAD GROUNDING ELECTRODE
30'	#4 AWG SOLID BARE COPPER GROUNDING CONDUCTOR



GUARDRAIL
BY OTHERS

INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	DMS
1	STRUCTURE
1	FOUNDATION
1	LADDER
1	EQUIPMENT CABINET DISCONNECT ON STRUCTURE
1	5/8" x 10' COPPER CLAD GROUNDING ELECTRODE
10'	#4 AWG SOLID BARE COPPER GROUNDING CONDUCTOR

*CELLULAR COMMUNICATIONS EQUIPMENT WILL BE PROVIDED BY THE DEPARTMENT.



NORTH OF BENAJA RD.

NOTES
1. CONTACT GARY VONCANNON (DUKE ENERGY) AT 336-632-3848 TO OBTAIN POWER TO ELECTRICAL SERVICE.
2. INSTALL NEW DMS, WALKWAY, AND LADDER ON NEW DMS STRUCTURE.
3. INSTALL NEW DMS POLE MOUNTED CABINET ON NEW DMS STRUCTURE.
4. INSTALL NEW GROUNDING SYSTEM AS SHOWN ON SHEET ITS-24 AND AS DESCRIBED IN THE PROJECT SPECIAL PROVISIONS.

Prepared in the Offices of:
Transportation Mobility and Safety Division
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Transportation Systems Branch
750 N. Greenfield Pkwy., Garner, NC 27529

DMS REPLACEMENT

DIVISION 07 GUILFORD CO. GREENSBORO

PLAN DATE:	MARCH 2013	REVIEWED BY:	YOW
PREPARED BY:	GREEN	REVIEWED BY:	PARKER

REVISIONS	INIT.	DATE

SCALE
0
N/A

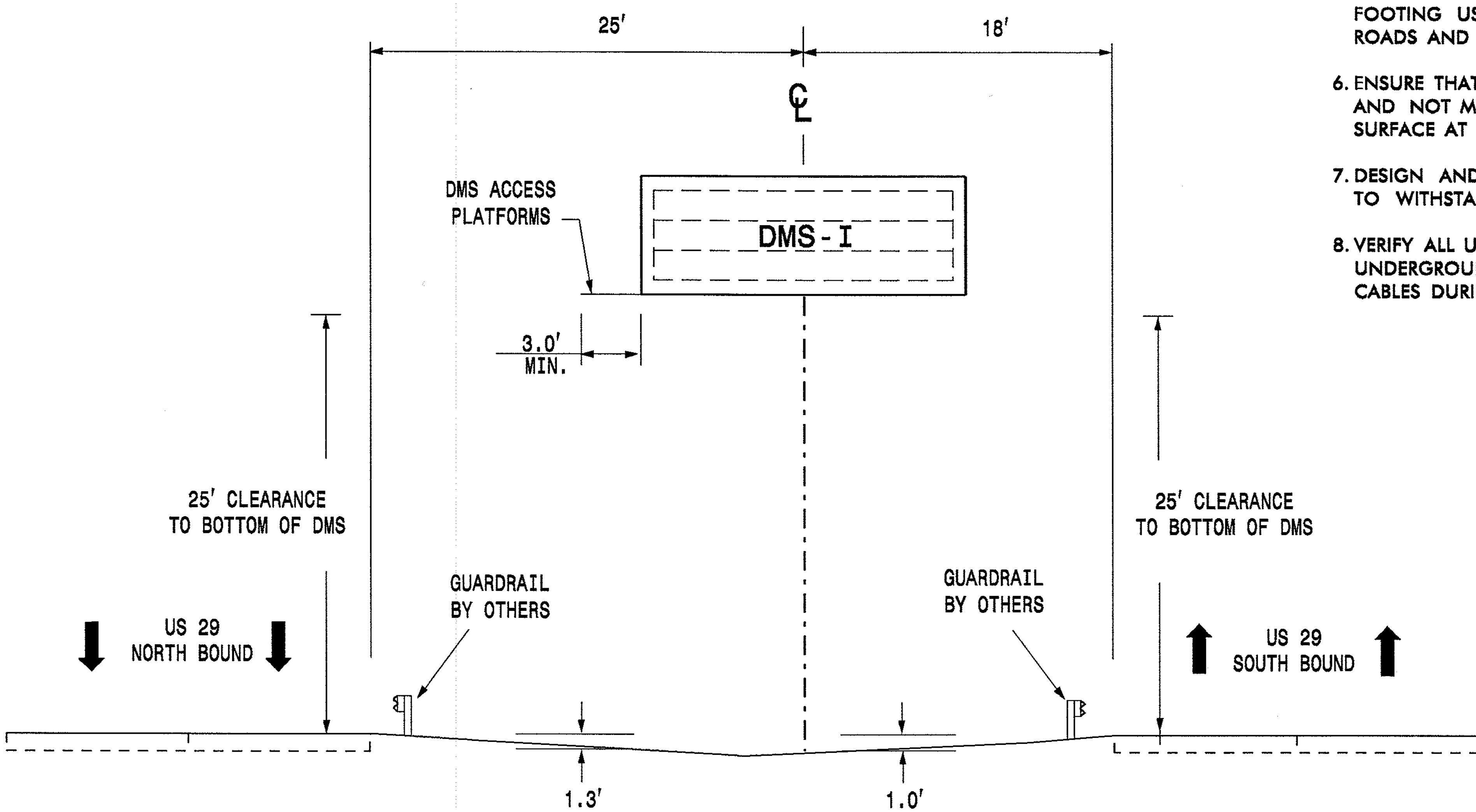
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023919 ENGINEER GREGORY A FULLER

SIGNATURE Gregory A Fuller DATE 3/27/13

CADD Filename:

ESTIMATED DIMENSION : 27′ X 10′

MAXIMUM DEADLOAD OF 5200 LBS



NOTES

1. PROVIDE A FIXED LADDER LEADING TO THE ACCESS PLATFORM.
2. EQUIP THE LADDER WITH A SECURITY COVER (LADDER GUARD). START THE FIRST LADDER RUNG NO MORE THAN 18 INCHES ABOVE A CONCRETE LANDING PAD. DESIGN RUNGS ON 12 INCH CENTER–TO–CENTER TYPICAL SPACING.
3. INSTALL A CONCRETE LANDING PAD MEASURING A MINIMUM 4 INCHES DEEP, 24 INCHES WIDE, AND 36 INCHES LONG DIRECTLY BENEATH THE LADDER.
4. USE ACTUAL DIMENSIONS AND WEIGHT OF THE DMS TO COMPLETE THE DESIGN OF THE DMS STRUCTURE.
5. FIELD VERIFY ALL FOOTING ELEVATIONS AND GROUND SLOPES AT THE FOOTING USING THE LATEST NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES.
6. ENSURE THAT THE TOP OF THE FOOTING EXTENDS AT LEAST 6 INCHES AND NOT MORE THAN 24 INCHES ABOVE THE HIGHEST POINT OF THE GROUND SURFACE AT THE FOOTING.
7. DESIGN AND CONSTRUCT THE PEDESTAL STRUCTURE AND DMS ENCLOSURE TO WITHSTAND WIND VELOCITIES OF 90 MPH.
8. VERIFY ALL UNDERGROUND UTILITY LOCATIONS BEFORE BEGINNING ANY UNDERGROUND WORK. DO NOT DAMAGE ANY EXISTING UTILITIES OR NCDOT CABLES DURING CONSTRUCTION.

Prepared in the Offices of: Transportation Mobility and Safety Division, Intelligent Transportation Systems Section

750 N. Greenfield Pkwy., Garner, NC 27529

DMS INSTALLATION

DIVISION 07 GUILFORD CO. GREENSBORO

PLAN DATE:	MARCH 2013	REVIEWED BY:	YOW
PREPARED BY:	GREEN	REVIEWED BY:	PARKER

SCALE 0 N/A

REVISIONS	INIT.	DATE

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 023919 ENGINEER GREGORY A. FULLER

Gregory A. Fuller 3/27/13

SIGNATURE DATE

CADD Filename:

PROJECT REFERENCE NO.	SHEET NO.
34601.3.19	ITS-19

DMS-C
US 220 NB, NORTH OF VANDALIA RD.

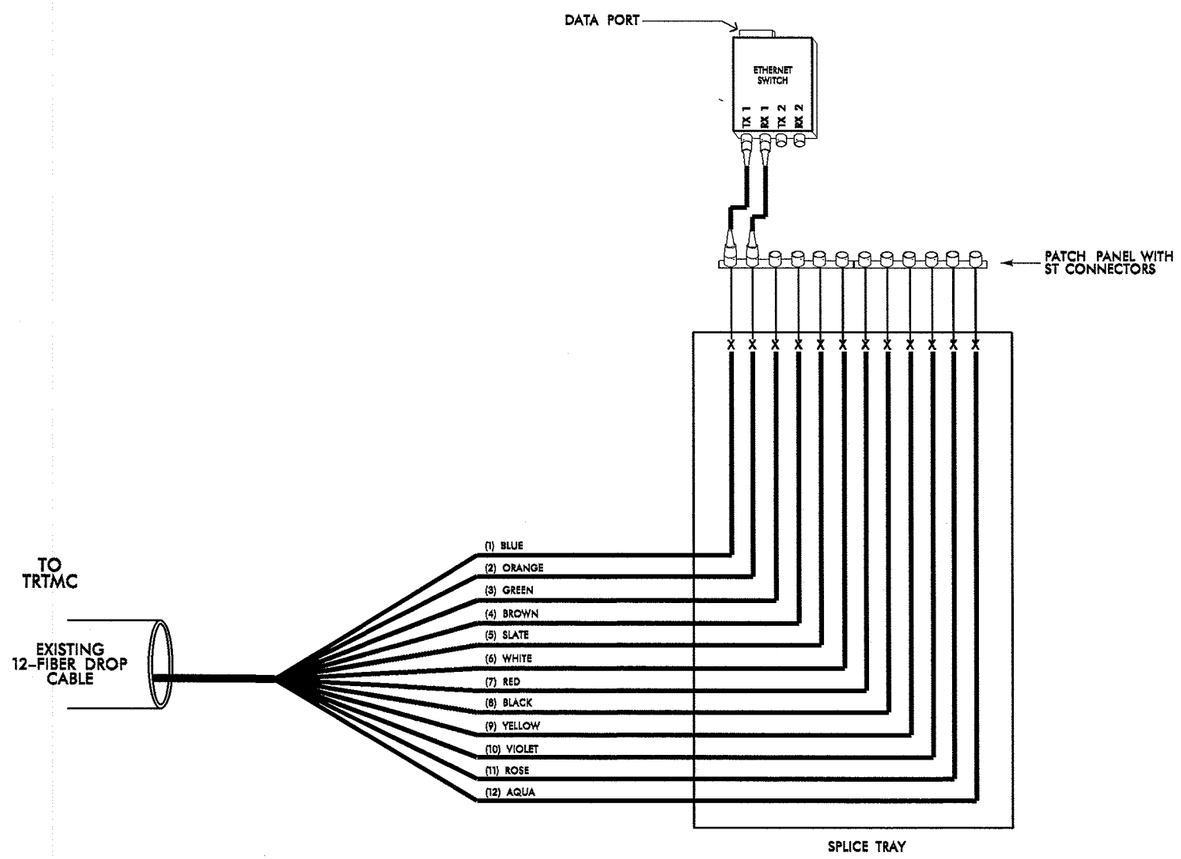
SHEET ITS-6

LEGEND

X = FUSION SPLICE
E = EXISTING FUSION SPLICE
C = CAP

COLOR CODE
TIA/EIA 598-A

(1) BLUE	(7) RED
(2) ORANGE	(8) BLACK
(3) GREEN	(9) YELLOW
(4) BROWN	(10) VIOLET
(5) SLATE	(11) ROSE
(6) WHITE	(12) AQUA



NOTES:
1. COIL AND STORE ALL UNUSED FIBERS IN SPLICE TRAY. CAP UNUSED BUFFER TUBES.
2. ETHERNET SWITCH AND TRANSCEIVER TERMINATION CONFIGURATIONS ARE GENERIC. CONTRACTOR IS RESPONSIBLE FOR DETERMINING/ENSURING PROPER TERMINATION.

Prepared in the Offices of:
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Mobility and Safety Division
Transportation Management Unit
750 N. Greenfield Pkwy., Garner, NC 27529

SPLICE DETAILS

DIVISION 07	GUILFORD CO.	GREENSBORO	
PLAN DATE: MARCH 2013	REVIEWED BY: YOW		
PREPARED BY: GREEN	REVIEWED BY: PARKER		

REVISIONS	INIT.	DATE

SCALE: 0 N/A

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023919 ENGINEER GREGORY A. FULLER

Gregory A. Fuller 3/27/13
SIGNATURE DATE

CADD FILENAME:

PROJECT REFERENCE NO.	SHEET NO.
34601.3.19	ITS-20

EXISTING DMS I-40 EB, EAST OF LEE ST.

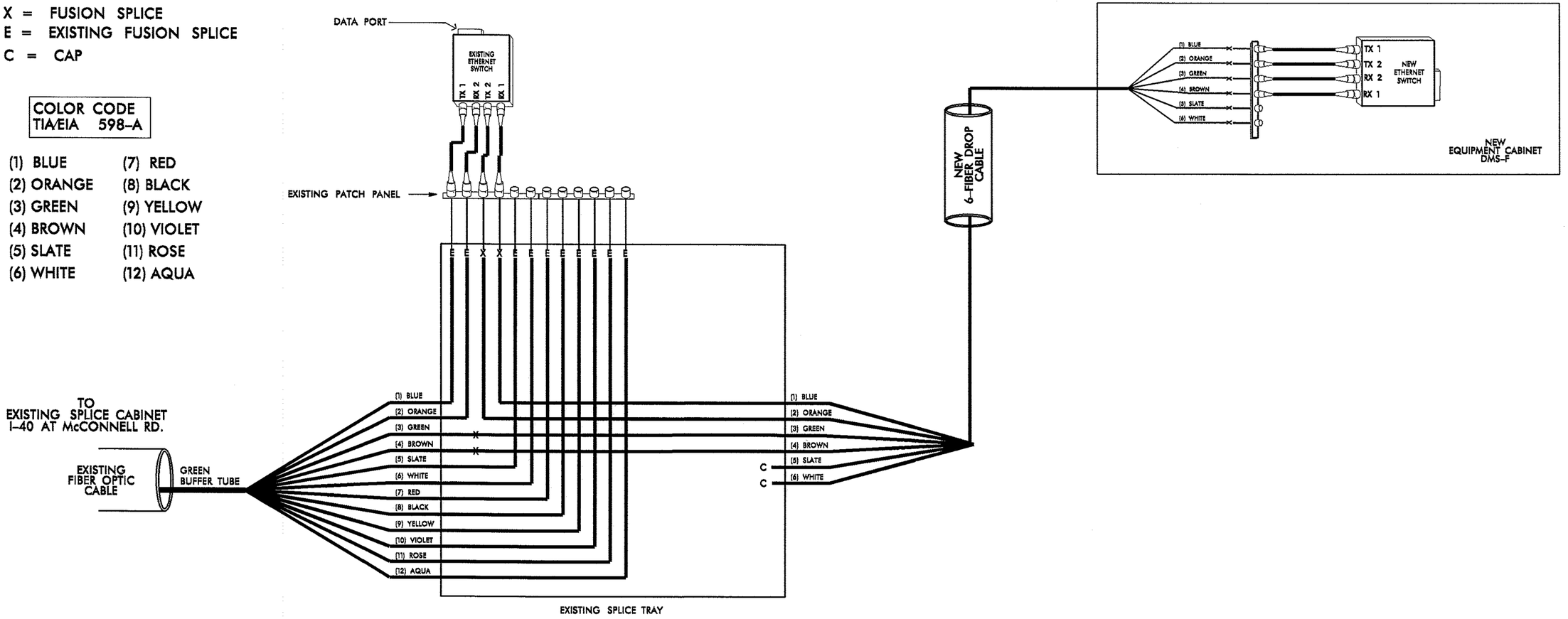
SHEET ITS-13

LEGEND

X = FUSION SPLICE
E = EXISTING FUSION SPLICE
C = CAP

COLOR CODE TIA/EIA 598-A

(1) BLUE	(7) RED
(2) ORANGE	(8) BLACK
(3) GREEN	(9) YELLOW
(4) BROWN	(10) VIOLET
(5) SLATE	(11) ROSE
(6) WHITE	(12) AQUA



NOTES:
1. COIL AND STORE ALL UNUSED FIBERS IN SPLICE TRAY. CAP UNUSED BUFFER TUBES.
2. ETHERNET SWITCH AND TRANSCEIVER TERMINATION CONFIGURATIONS ARE GENERIC. CONTRACTOR IS RESPONSIBLE FOR DETERMINING/ENSURING PROPER TERMINATION.

Prepared in the Offices of:
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 N. Greenfield Pkwy., Garner, NC 27529

SPLICE DETAILS

DIVISION 07 GUILFORD CO. GREENSBORO

PLAN DATE: MARCH 2013 REVIEWED BY: YOW
PREPARED BY: GREEN REVIEWED BY: PARKER

SCALE: 0 N/A

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023919 ENGINEER GREGORY A. FULLER

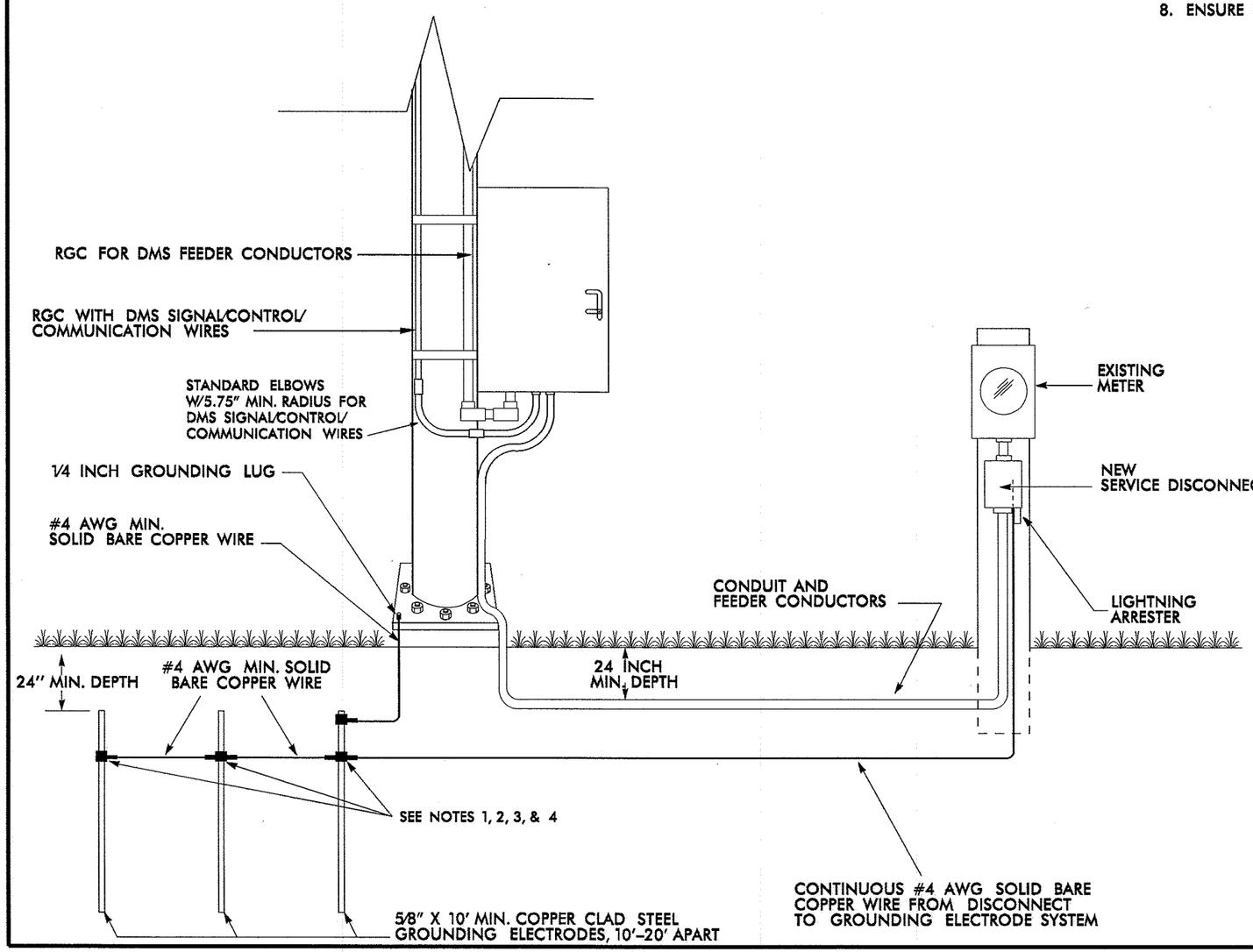
Gregory A. Fuller 3/27/13
SIGNATURE DATE

CADD Filename:

PROJECT REFERENCE NO.	SHEET NO.
34601.3.19	ITS-21

NOTES

1. INSTALL A MINIMUM OF THREE (3) GROUNDING ELECTRODES SPACED A MINIMUM OF 10 FEET APART. ENSURE THAT EXISTING UNDERGROUND FACILITIES ARE NOT DAMAGED DURING INSTALLATION.
2. TEST GROUNDING SYSTEM USING AN APPROVED METHOD. SYSTEM SHOULD MEASURE TWENTY (20) OHMS OR LESS. ADDITIONAL GROUNDING ELECTRODES SHALL BE INSTALLED AS DIRECTED BY THE ENGINEER TO MEET THIS REQUIREMENT.
3. EXOTHERMICALLY WELD ALL CONNECTIONS TO GROUND RODS.
4. INSTALL MARKER TAPE DIRECTLY ABOVE ALL GROUNDING ELECTRODES AND CONDUCTORS AT A DEPTH OF 12 INCHES.
5. REMOVE BONDING JUMPER IN EQUIPMENT CABINET IF INSTALLED BETWEEN AC NEUTRAL AND EQUIPMENT GROUND.
6. BOND ALL RIGID GALVANIZED STEEL CONDUITS ENTERING THE CABINET TO "EQUIPMENT GROUND".
7. INSTALL CONDUIT BETWEEN DISCONNECT AND CABINET.
8. ENSURE EQUIPMENT GROUND IS ELECTRICALLY BONDED TO CABINET.



DYNAMIC MESSAGE SIGNS B & C
MODIFIED ELECTRICAL SERVICE AND GROUNDING DETAIL

PLAN DATE:	MARCH 2013	REVIEWED BY:	YOW
PREPARED BY:	GREEN	REVIEWED BY:	PARKER

REVISIONS	INIT.	DATE

Prepared in the Offices of:
NCDOT Traffic Engineering Branch
750 N. Greenfield Pkwy., Garner, NC 27529

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023919 ENGINEER GREGORY A. FULLER

SCALE: 0 N/A

SIGNATURE: Gregory A. Fuller 3/27/13

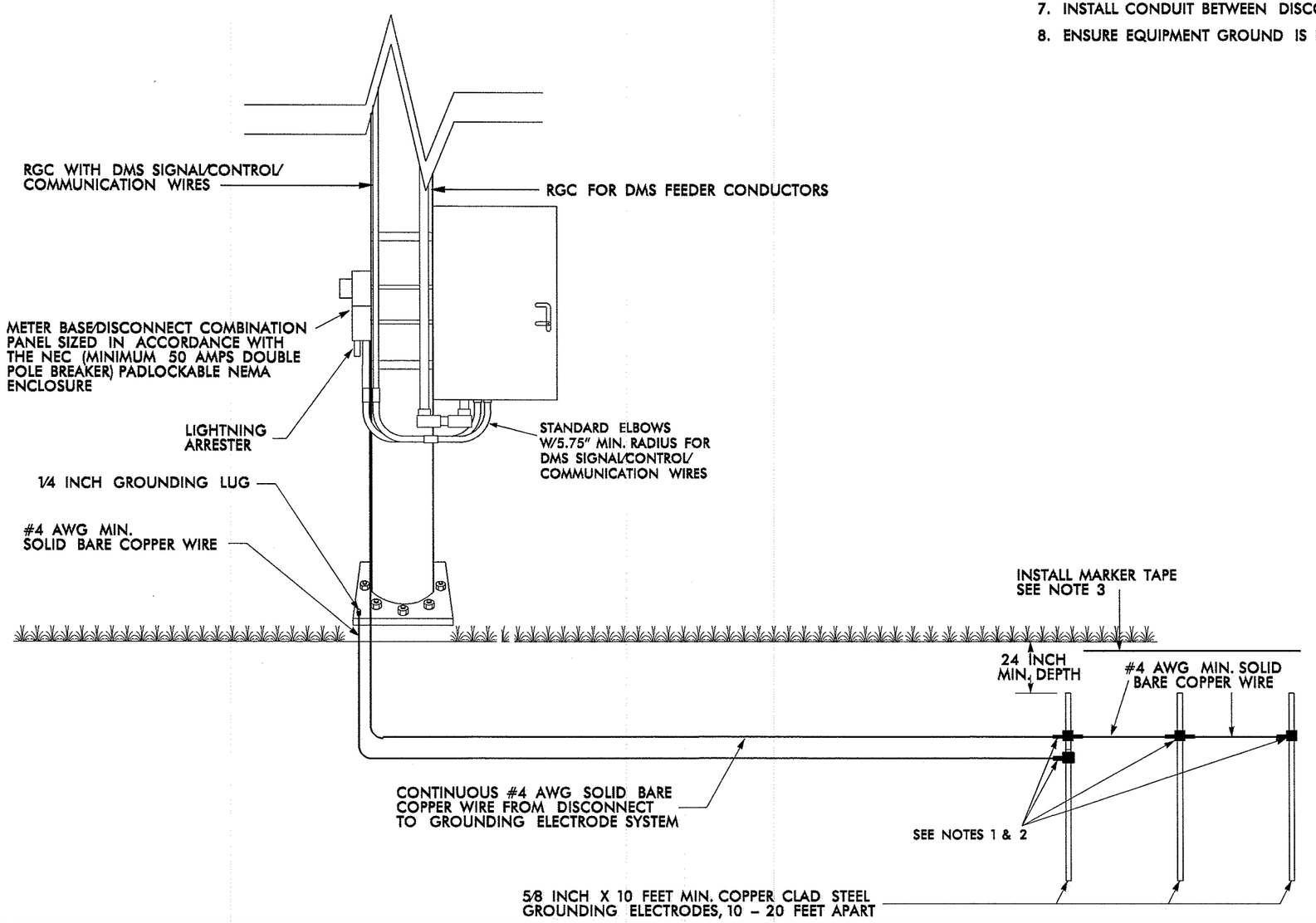
DATE

CADD Filename:

PROJECT REFERENCE NO.	SHEET NO.
34601.3.19	ITS-22

NOTES

1. INSTALL A MINIMUM OF THREE (3) GROUNDING ELECTRODES SPACED A MINIMUM OF 10 FEET APART. ENSURE THAT EXISTING UNDERGROUND FACILITIES ARE NOT DAMAGED DURING INSTALLATION.
2. TEST GROUNDING SYSTEM USING AN APPROVED METHOD. SYSTEM SHOULD MEASURE TWENTY (20) OHMS OR LESS. ADDITIONAL GROUNDING ELECTRODES SHALL BE INSTALLED AS DIRECTED BY THE ENGINEER TO MEET THIS REQUIREMENT.
3. EXOTHERMICALLY WELD ALL CONNECTIONS TO GROUND RODS.
4. INSTALL MARKER TAPE DIRECTLY ABOVE ALL GROUNDING ELECTRODES AND CONDUCTORS AT A DEPTH OF 12 INCHES.
5. REMOVE BONDING JUMPER IN EQUIPMENT CABINET IF INSTALLED BETWEEN AC NEUTRAL AND EQUIPMENT GROUND.
6. BOND ALL RIGID GALVANIZED STEEL CONDUITS ENTERING THE CABINET TO "EQUIPMENT GROUND".
7. INSTALL CONDUIT BETWEEN DISCONNECT AND CABINET.
8. ENSURE EQUIPMENT GROUND IS ELECTRICALLY BONDED TO CABINET.



DYNAMIC MESSAGE SIGNS D & E
NEW ELECTRICAL SERVICE AND GROUNDING DETAIL

PLAN DATE:	MARCH 2013	REVIEWED BY:	YOW
PREPARED BY:	GREEN	REVIEWED BY:	PARKER

REVISIONS	INIT.	DATE

Prepared in the Offices of:
NCDOT Traffic Engineering Branch
750 N. Greenfield Pkwy., Garner, NC 27529

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023919 ENGINEER GREGORY A. FULLER

SCALE: 0 N/A

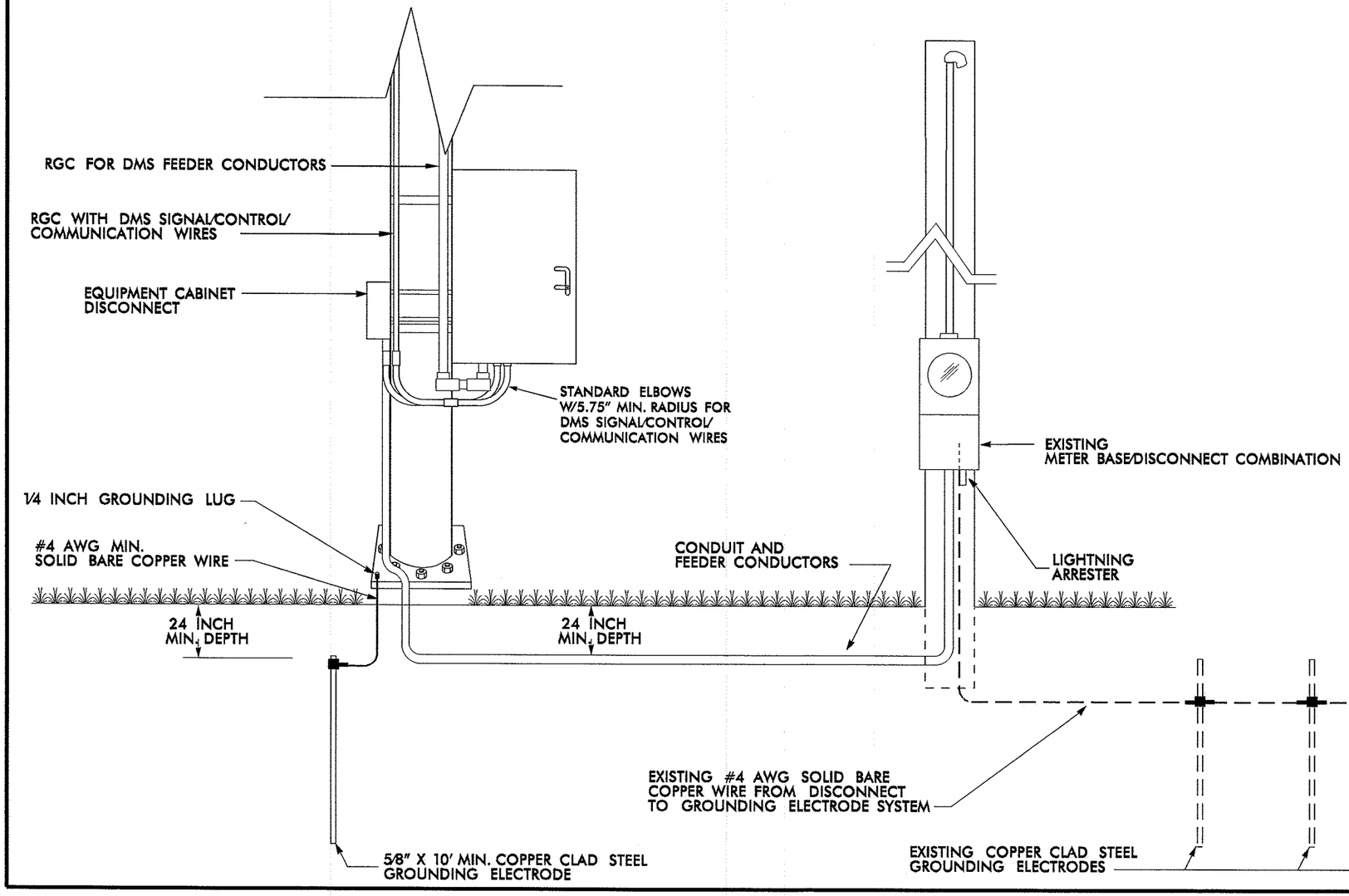
Gregory A. Fuller 3/27/13
SIGNATURE DATE

CADD Filename:

PROJECT REFERENCE NO.	SHEET NO.
34601.3.19	ITS-23

NOTES

1. INSTALL A MINIMUM OF THREE (3) GROUNDING ELECTRODES SPACED A MINIMUM OF 10 FEET APART. ENSURE THAT EXISTING UNDERGROUND FACILITIES ARE NOT DAMAGED DURING INSTALLATION.
2. TEST GROUNDING SYSTEM USING AN APPROVED METHOD. SYSTEM SHOULD MEASURE TWENTY (20) OHMS OR LESS. ADDITIONAL GROUNDING ELECTRODES SHALL BE INSTALLED AS DIRECTED BY THE ENGINEER TO MEET THIS REQUIREMENT.
3. EXOTHERMICALLY WELD ALL CONNECTIONS TO GROUND RODS.
4. INSTALL MARKER TAPE DIRECTLY ABOVE ALL GROUNDING ELECTRODES AND CONDUCTORS AT A DEPTH OF 12 INCHES.
5. REMOVE BONDING JUMPER IN EQUIPMENT CABINET IF INSTALLED BETWEEN AC NEUTRAL AND EQUIPMENT GROUND.
6. BOND ALL RIGID GALVANIZED STEEL CONDUITS ENTERING THE CABINET TO "EQUIPMENT GROUND".
7. INSTALL CONDUIT BETWEEN DISCONNECT AND CABINET.
8. ENSURE EQUIPMENT GROUND IS ELECTRICALLY BONDED TO CABINET.



DYNAMIC MESSAGE SIGN F
MODIFIED ELECTRICAL SERVICE AND GROUNDING DETAIL

PLAN DATE:	MARCH 2013	REVIEWED BY:	YOW
PREPARED BY:	GREEN	REVIEWED BY:	PARKER

REVISIONS	INIT.	DATE

Prepared in the Offices of
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Transportation Mobility and Safety Division
1550 Mail Service Center, Raleigh, NC 27699-1550
750 N. Greenfield Pkwy., Garner, NC 27529

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 023919 GREGORY A. FULLER

SCALE: N/A

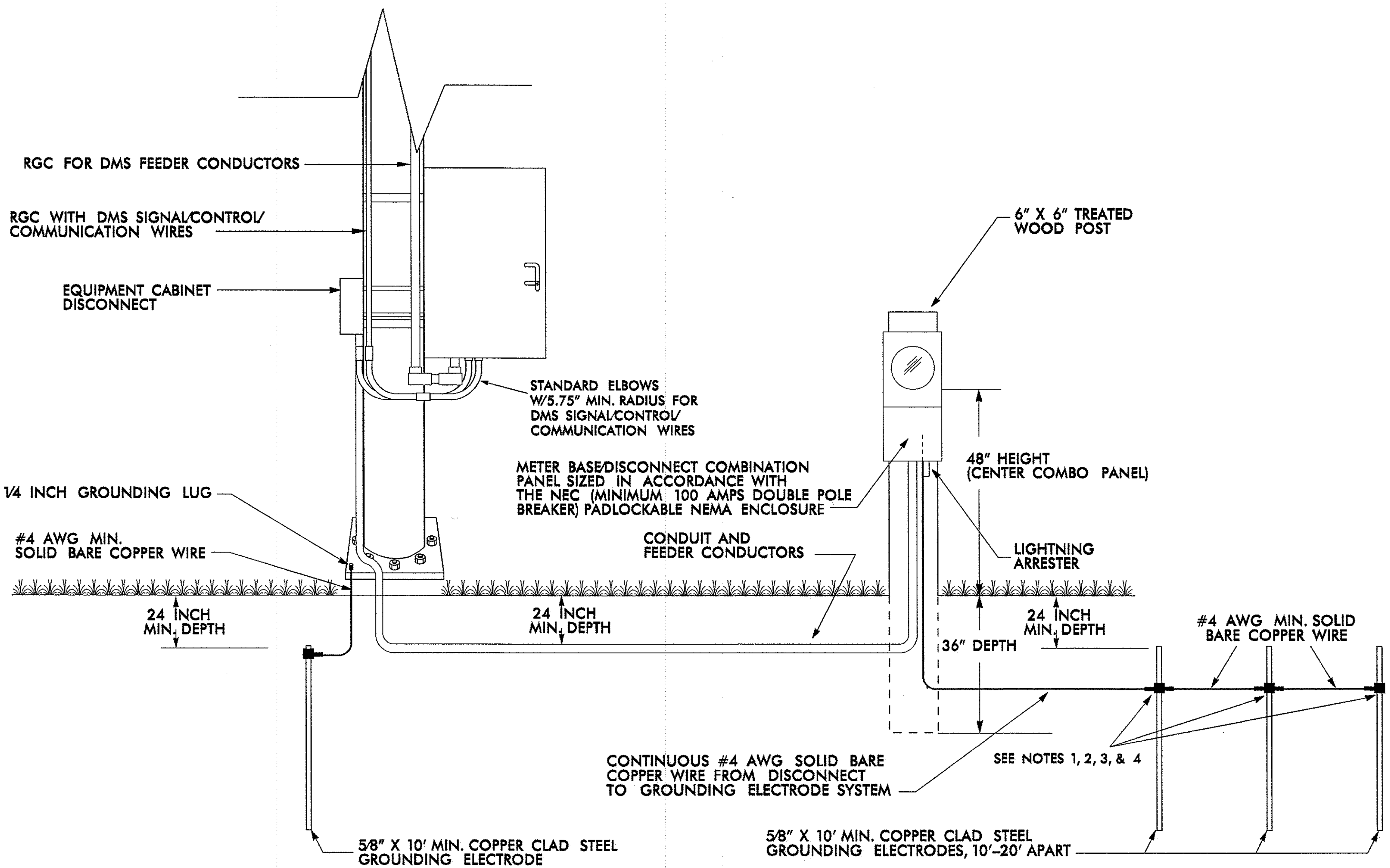
Gregory A. Fuller 3/27/13
SIGNATURE DATE

CADD Filename:

PROJECT REFERENCE NO.	SHEET NO.
34601.3.19	ITS-24

NOTES

1. INSTALL A MINIMUM OF THREE (3) GROUNDING ELECTRODES SPACED A MINIMUM OF 10 FEET APART. ENSURE THAT EXISTING UNDERGROUND FACILITIES ARE NOT DAMAGED DURING INSTALLATION.
2. TEST GROUNDING SYSTEM USING AN APPROVED METHOD. SYSTEM SHOULD MEASURE TWENTY (20) OHMS OR LESS. ADDITIONAL GROUNDING ELECTRODES SHALL BE INSTALLED AS DIRECTED BY THE ENGINEER TO MEET THIS REQUIREMENT.
3. EXOTHERMICALLY WELD ALL CONNECTIONS TO GROUND RODS.
4. INSTALL MARKER TAPE DIRECTLY ABOVE ALL GROUNDING ELECTRODES AND CONDUCTORS AT A DEPTH OF 12 INCHES.
5. REMOVE BONDING JUMPER IN EQUIPMENT CABINET IF INSTALLED BETWEEN AC NEUTRAL AND EQUIPMENT GROUND.
6. BOND ALL RIGID GALVANIZED STEEL CONDUITS ENTERING THE CABINET TO "EQUIPMENT GROUND".
7. INSTALL CONDUIT BETWEEN DISCONNECT AND CABINET.
8. ENSURE EQUIPMENT GROUND IS ELECTRICALLY BONDED TO CABINET.



DYNAMIC MESSAGE SIGN I
NEW ELECTRICAL SERVICE
AND GROUNDING DETAIL

PLAN DATE:	MARCH 2013	REVIEWED BY:	YOW
PREPARED BY:	GREEN	REVIEWED BY:	PARKER

REVISIONS	INIT.	DATE

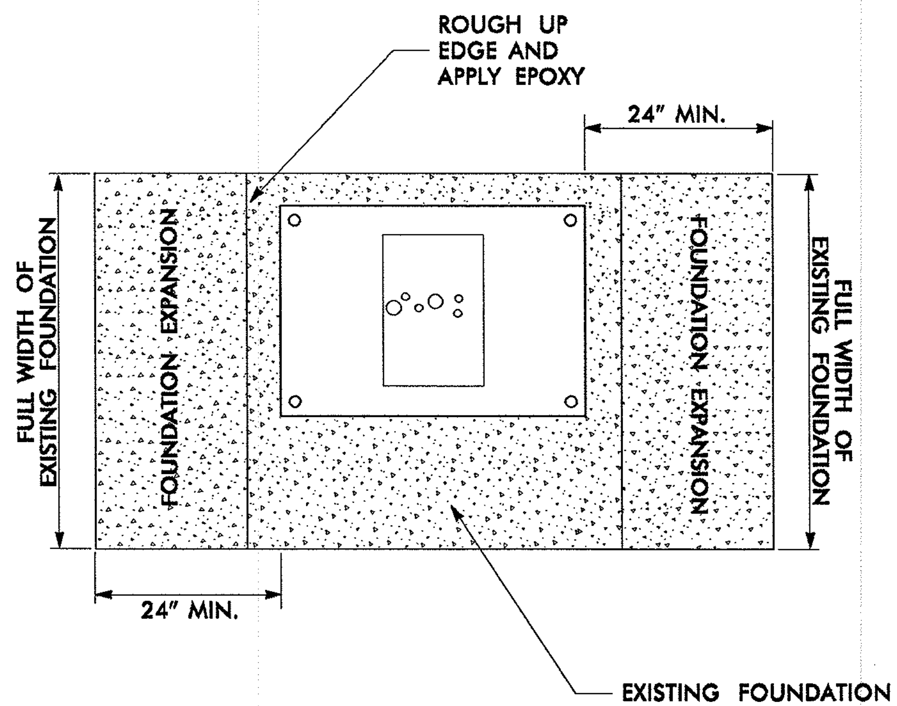
Prepared in the Offices of:
Transportation Mobility and Safety Division, Intelligent Transportation Systems Section
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 N. Greenfield Pkwy., Garner, NC 27529

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 023919 GREGORY A. FULLER

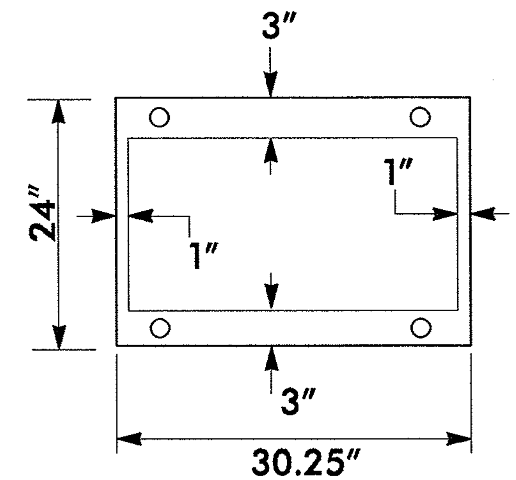
Gregory A. Fuller 3/27/13
SIGNATURE DATE

SCALE 0 N/A

CADD Filename:



FOOTPRINT OF 332 TYPE CABINET WITH BASE EXTENDER



FOOTPRINT OF 336 TYPE CABINET WITH BASE EXTENDER

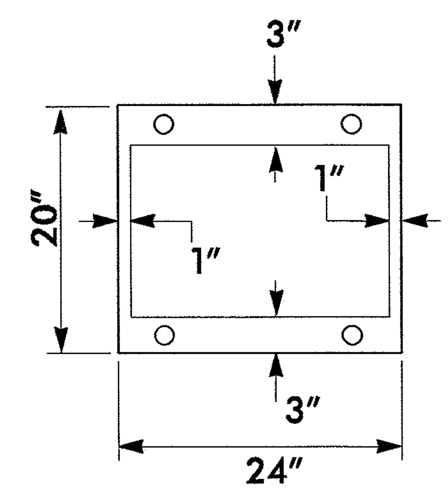


TABLE 1

FOUNDATION EXTENSION	LENGTH OF DOWEL
>16"	18"
>6' AND <16"	11"
=6"	8"

NOTES

FOR FOUNDATION MODIFICATIONS:

1. EXTEND THE FOUNDATION TO PROVIDE A MINIMUM MAINTENANCE TECHNICIAN PAD AREA THAT EXTENDS 24" FROM THE FRONT AND BACK OF THE CABINET, AND 3" FROM THE SIDES OF THE CABINET.
2. EXCAVATE THE GROUND AROUND THE EXISTING FOUNDATION TO A DEPTH SUFFICIENT TO EXPOSE A MINIMUM OF 4" OF THE FOUNDATION BELOW EXISTING GRADE.
3. ROUGH THE SIDES OF THE EXISTING FOUNDATION FROM THE TOP TO A POINT FOUR INCHES BELOW GRADE MINIMUM BY MEANS OF A CHISEL OR OTHER METHOD APPROVED BY THE ENGINEER.
4. WASH THE SIDES OF THE FOUNDATION WITH WATER PRESSURIZED AT 50 PSI AND THOROUGHLY DRY WITH COMPRESSED AIR.
5. DRILL HOLES APPROXIMATELY 6" DEEP ON 12-INCH CENTERS INTO THE EXISTING FOUNDATION. INSTALL #4 DOWELS AND EPOXY INTO PLACE. DOWELS SHALL BE THE LENGTH SHOWN IN THE TABLE 1.
6. FORM THE SIDES OF THE MODIFIED FOUNDATION TO A MINIMUM DEPTH OF 4" BELOW GRADE.
7. POSITION FORMS SO THAT ALL EXISTING EXPOSED FOUNDATION SURFACES AT OR ABOVE GRADE LEVEL WILL BE MATCHED AND LEVEL.
8. APPLY A COATING OF APPROVED EPOXY BONDING AGENT TO ALL EXPOSED ROUGHENED CONCRETE SURFACES AS RECOMMENDED BY THE MANUFACTURER.
9. PROVIDE A ONE INCH CHAMFER ON ALL NEW OUTSIDE EDGES.
10. WHERE CABINETS ARE RELOCATED OR ROTATED ON EXISTING FOUNDATION, CUT OFF ANY EXISTING CABINET MOUNTING BOLTS AND EXISTING GROUND RODS AND GRIND FLUSH WITH THE PAD SURFACE.

Prepared in the Offices of:
Traffic Engineering and Safety Systems Branch
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Intelligent Transportation Systems
750 N. Greenfield Pkwy., Garner, NC 27529

FOUNDATION MODIFICATION
AND CABINET ADAPTER
DETAIL

PLAN DATE:	MARCH 2013	REVIEWED BY:	YOW
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SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023919 ENGINEER GREGORY A. FULLER

Gregory A. Fuller 3/27/13
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